STACKS

Missouri Medicine

Vol. 80, No. 1 (ISSN 0026-6620) January, 1983

SDS

Preliminary Program

MSMA 125th ANNUAL CONVENTION

March 17-20, 1983

Silent Gonorrhea in Siblings

Case Reports

Special Review Article

Recent Developments in Cardiac Pacing

Abuse of Pentazocine/Tripelennamine Combination

Ts and Blues in St. Louis

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MISSOURI STATE MEDICAL ASSOCIATION

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Claim Representative

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Regional Claim Representative

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Claims Director
Patient Safety Coordinator

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January 1983

PROGRESS NOTES

MISSOURI STATE MEDICAL ASSOCIATION

MSMA Forms Medicare Review Corporation

The MSMA Council, at its December 11 meeting, approved a cooperative effort with the Missouri Association of Osteopathic Physicians and Surgeons (MAOPS) to form a freestanding corporation to provide statewide peer review for Medicare patients.

The basis for the corporation, the Peer Review Improvement Act of 1982, was passed by Congress in August. This act repealed the existing Professional Standards Reviews Organization program and required the Department of Health and Human Services (HHS) to enter into performance-based contracts with Utilization and Quality Control Peer Review Organizations.

The new corporation will apply to HHS Secretary Richard Schwiekert for the contract: to review the activities of Missouri physicians in regards to Medicare beneficiaries; to determine what types of cases should be reviewed; and to determine whether payment should be made under Medicare.

In other Council matters, Dr. Matthews reported that a Health Policy Agenda project has been instituted by the AMA to develop a longterm consistent approach to health care issues. President Matthews recommended that Dr. Richard V. Bradley, St. Louis, be MSMA's representative to the Health Policy Agenda's Advisory Committee.

Dr. Matthews also suggested Dr. Andrew McCanse, Kansas City, to be MSMA's nomination to serve on one of the work groups for the Health Policy Agenda.

In other actions, the Council:

- Approved surveying other state medical associations to determine the effects of "direct membership," and to investigate means to stimulate membership among students and residents.
- Approved broadening the advertising policies for *Missouri Medicine.*
- Approved $2,000 appropriation for expense for the Health Policy Agenda representative.
- Requested the Auxiliary to the MSMA to conduct long-range plannng.
- Rejected the Public Affairs Committee's recommendations to establish a statewide Speakers Bureau and to distribute statewide a 60-minute film on drug abuse.
- Approved the Public Affairs Committee recommendation to develop and distribute at cost to physicians a patient Survey Brochure, designed to elicit opinions from patients.
- Referred the issue of the recent merger of Clay and Platte County Medical Societies to the MSMA Legal Counsel.
- Approved three recommendations proposed by Dr. Richardson regarding staff policies at a Washington, Missouri hospital.
- Referred the matter of a chiropractic ad in Sedalia to the State Board of Chiropractic Examiners.
- Urged MOMEDICO Board to investigate expanding types of insurance offered to members.
- Instructed MSMA staff to summarize the Planning Proposals and insert into the Delegate's Handbook.
- Directed MSMA to establish a statewide appeals mechanism for private sector peer review.

Resolution Deadline Nears For 1983 Convention

MSMA members, component medical societies and medical student delegates who wish to introduce resolutions at the 1983 Annual Convention of the Missouri State Medical Association must submit their resolutions by February 1, 1983 for insertion in the Delegate's Handbook.

Any resolution introduced after that time must be made available to the House of Delegates 24 hours before the session in which it is to be introduced. Sufficient copies of the resolution must be supplied by the individual or society sponsoring the resolution.

At the second session of the House, the same procedure must be followed, but introduction requires two-thirds approval of the House of Delegates. Unanimous approval is needed for introduction at the final session.

The Missouri State Medical Association's 125th Annual Session will be held at Tan-Tar-A Resort, Lake of the Ozarks, on March 17-20.

Lieb Appointed To Committee

Francis Xavier Lieb, M.D., St. Louis, has been appointed to the AMA's ad-hoc Committee on Medicolegal Problems.

Dr. Lieb is one of five physicians who will serve a two-year term with the newly created committee, established by the AMA's Board of Trustees.

Medicine, FTC Reach Stalemate in Congress

A draw.

That was the outcome on the hotly contested issue to deny the Federal Trade Commission authority to regulate the learned professions which was before the 97th Congress, which adjourned in December.

Medicine won the first round as seven of Missouri's 10 congressmen voted with the majority of the U.S. House of Representatives to strip the FTC of its self-asserted jurisdiction over the professions. The historic 245-155 vote was in support of the Luken-Lee Amendment to place a moratorium on all FTC activities regarding the professions unless Congress gives it specific approval for such action.

Earlier, the House defeated the FTC-backed Broyhill Amendment which would have specifically authorized the federal agency to pre-empt state medical practice acts in many areas.

Voting to support medicine on both amendments were Reps. Wendell Bailey, Tom Coleman, Bill Emerson, Ike Skelton, Gene Taylor, Harold Volkmer, and Robert Young.

Voting against medicine on both amendments were Reps. Bill Clay and Richard Gephardt. Rep. Richard Bolling did not vote.

The battle then shifted to the Senate where two crucial votes were taken. Although the FTC won both contests, the House refused to accept the Senate's version of the Appropriations bill and the entire FTC-Medicine issue will return to Congress next session.

The first vote in the Senate was in the Appropriations Committee where the Rudman Amendment was adopted. Missouri Senator Thomas Eagleton was the deciding vote on a 15-14 tally as he favored the FTC-backed amendment, which was nearly identical to the Broyhill Amendment.

Only the fact that the FTC language in the Senate-passed bill was unacceptable to the House prevented this detrimental legislation from becoming law.

When the Appropriations Bill reached the Senate floor, medicine fought to reverse its earlier loss by gaining passage of the McClure Amendment. However, a move was made to table this amendment and Senator John Danforth joined with Senator Eagleton in opposing the medical profession's position.

Only the fact that the FTC language in the Senate-passed bill was unacceptable to the House prevented this detrimental legislation from becoming law!

MSMA members are urged to contact their congressmen and express appreciation for their support of medicine's views on the FTC issue or, if their representative opposed medicine, ask their reasons.

Members should also inquire of Senators Eagleton and Danforth why they believe the federal government should be allowed to pre-empt state licensing boards and why current anti-trust laws are not sufficient to insure fair competition among professions.

Remember
MSMA's Annual Convention
March 17-20, 1983
at
Marriott's Tan-Tar-A
Lake of the Ozarks

Laurie Cofer Named Communications Director

Laurie Cofer has been named the new Director of Communications for the Missouri State Medical Association. Laurie replaces Debbie Sievert Karpiel whose husband recently was transferred to St. Louis.

Laurie is involved with media and public relations for the Association and is responsible for all MSMA newsletters and brochures.

Originally from St. Charles, Laurie moved to Jefferson City in 1981 to work as Media Director for the Missouri Republican State Committee. More recently, Laurie was in Kansas City with the successful re-election campaign of Senator John C. Danforth.

Laurie received her undergraduate degrees in journalism and political science from the University of Missouri-Columbia.

Average Physician Sees 131.2 Patients Per Week

The number of total patient visits increased by only 1.4% in the second quarter of 1982 to an average of 131.2 per physician per week. The composition of visits, however, changed markedly, says the AMA Socioeconomic Monitoring System. While office visits increased by 7.3%, visits on hospital rounds declined by over 10%. The pattern was similar in each of the major specialty groups. General and family practitioners experienced a particularly large decline (23%) in hospital visits. This party offset an 8% increase a quarter earlier.

The number of operations, deliveries, and assists showed a sharp increase in the second quarter (13%) to an average of 3.4 per physician per week. The first quarter, by contrast, had a 9% decrease in the amount of surgery performed. The fluctuation from quarter to quarter in some activity indicators may result from normal seasonal factors, the *SMS Report* warns, and should not be interpreted as necessarily reflecting particular trends.

New Legislators and Old Problems Return

The 82nd General Assembly begins with some new and some old themes. With regard to personnel, there are six new Senators with five having previously served in the House of Representatives. There are 43 new Representatives meaning that freshmen comprise one-quarter of the House. Each legislator represents districts with new boundaries as a result of redistricting.

While there are some new persons serving in leadership positions — such as President Pro Tem of the Senate — the philosophy of these leaders is not drastically different from those that held these positions in the 81st General Assembly.

Under old themes, there is a continued "fiscal crunch," "cash-flow problem," or whatever term happens to be in vogue in any given month. The implication remains the same: There are no funds available for new programs and less money for current programs. With previous year carryovers, flexibility provided through block grants and stringent measures to reduce the level of services provided, most programs have been held at a standstill.

In terms of social services, the carryovers have been depleted, the flexibility exhausted and more stringent measures or reduced/elimination of programs is about all that remains.

There are some new and old themes with regard to legislation of interest to medicine. Legislation to license allied health personnel, permit patient access to medical records, place a tax on health service corporations, require use of child auto restraints and reorganize the Department of Social Services have all returned.

New legislation involving psychologists, pharmacists, hospital pharmacies, block grants and the sustaining of life of handicapped infants have all been prefiled for the upcoming session.

Due in part to our successes of last year, there is no need for legislation regarding determination of death, prohibition of the sale of "kiddie dope," repeal of annual teachers' exams, transfer of Ellis Fischel, and marriage between epileptics.

The MSMA Key Contact program has identified several new physicians to act as key contacts during the upcoming session. Current key contacts have been assigned or reassigned to their appropriate representatives. Still the old theme of "more is needed" continues. If you are willing to contact your legislators on bills of interest to medicine, please inform the MSMA.

MSMA's New Brochure Outlines Many Benefits

"Since 1850, the MSMA has been looking for and finding solutions to the problems facing medicine." That's the introduction of a new MSMA membership brochure entitled, "It Makes A Difference."

The brochure, which will be mailed to members this month, describes the many benefits and services available to MSMA members. Featured topics in the brochure include insurance, public relations, government relations, student loans and membership.

The brochure will also be instrumental in MSMA's new plans for resident and student membership drives. For more information, contact MSMA, P.O. Box 1028, Jefferson City, MO 65102. (314) 636-5151.

Majority of Physicians See Few Medicare Patients

More than half of the 4,500 Missouri medical doctors participating in the Medicaid program in FY 82 received less than $1,000 from Medicaid patients.

Since the 1981 Annual Session when the House of Delegates passed several resolutions concerning the Medicaid program, MSMA has been actively urging all physicians to share both the privilege and responsibility of health care for the poor.

As evidenced from the figures below, much more participation is needed by many more physicians.

The following figures are for individual M.D.'s. They do not include D.O.'s or physicians that participate in the program through an independent clinic provider number.

ANALYSIS OF PHYSICIAN REIMBURSEMENT MEDICAID PROGRAM

AMOUNT	FY 81 (7/80-6/81)	FY 82 (7/81-6/82)	Partial FY 83 (7/82-11/82)
$100,000+	6	5	0
$50-100,000	23	21	1
$25- 50,000	117	122	15
$10- 25,000	329	331	110
$1 - 10,000	1,869	1,807	1,245
$0 - 1,000	2,423	2,250	2,219
TOTAL	4,767	4,536	3,590

Physicians See Negative Changes in Medicare

The nation's doctors believe the practice of medicine will change substantially in the coming decade but fear that only a few of the changes will be for the better, according to a study by the Henry J. Kaiser Family Foundation.

"While only a few predicted changes are thought to be changes for the better," the study noted, "majority opposition is concentrated upon a few possible eventualities."

The survey, which was conducted by Louis Harris and Associates, added that "half of all physicians feel sufficient doubts about the future of medical practice and said they would not recommend it as highly today as they would have 10 years ago."

Among all the predicted changes, the ones that draw the greatest opposition from physicians have to do with loss of autonomy. Specifically:

Eighty-three percent of the physicians agree that "private health insurance supplies will set some kind of ceilings on fee reimbursements paid to physicians in most or all states in the next decade. Only 22 percent of the doctors think this will be a change for the better; 48 percent think it will be for the worse and 25 percent think it will have no effect.

Fifty-one percent of the physicians believe that, in the coming decade, "more physicians will opt for employed salaried positions rather than self-employment, partnership or incorporations." Only 13 percent think this will be a change for the better, 46 percent think it will be for the worse and 36 percent think it will have no effect.

In all, the study noted, "the most frequent type of change noted by physicians involves various forms of external regulations with emphasis upon government controls and interference."

The study is based on interviews with 1,814 physicians in three separate samples — representing cross sections of physicians, residents and doctors practicing in health maintenance organizations and individual practice associations.

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A Medical Society Baker's Dozen

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1. Legislative activities
2. Insurance programs
3. Student Loans
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6. Physician Placement Program
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12. Continuing Medical Education
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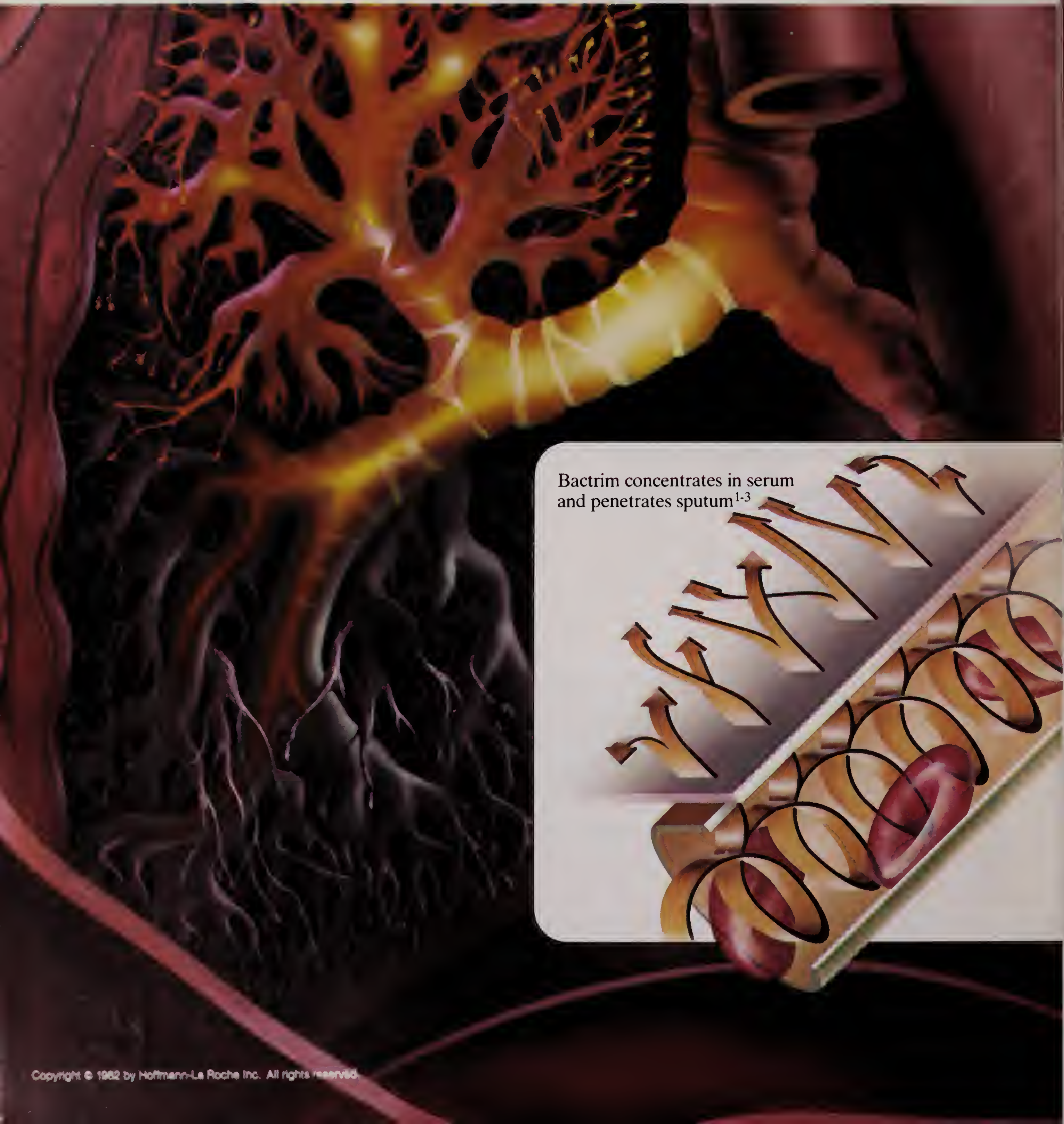

Bactrim concentrates in serum and penetrates sputum[1-3]

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major pathogens of chronic bronchitis*

Bactrim clears sputum of susceptible bacteria

In sputum cultures from patients with acute exacerbations of chronic bronchitis, *H. influenzae* and *S. pneumoniae* are isolated more often than any other pathogens.[4,5] One study of transtracheal aspirates from 76 patients with acute exacerbations found that 80% of the isolates were of these two pathogens.[5]

Bactrim is effective *in vitro* against most strains of both *S. pneumoniae* and *H. influenzae*—even ampicillin-resistant strains. And in acute exacerbations of chronic bronchitis involving these two pathogens, sputum cultures taken seven days after a two-week course of therapy showed that Bactrim eradicated these bacteria in 91% (50 of 55) of the patients treated.[6]

attacks *H. influenzae*—even ampicillin-resistant strains

attacks *S. pneumoniae*

Bactrim reduces coughing and sputum production

In three double-blind comparisons with ampicillin *q.i.d.*, Bactrim DS proved equally effective on all clinical parameters.[7-9] Bactrim reduced the frequency and severity of coughing, reduced the amount of sputum produced and cleared the sputum of purulence.

Bactrim has the added advantages of *b.i.d.* dosage convenience and a lower incidence of diarrhea than with ampicillin, and it is useful in patients allergic to penicillins.

Bactrim also proved more effective than tetracyclines in 10 clinical trials involving nearly 700 patients.[10] Overall clinical condition of the patients, changes in sputum purulence, reduction in sputum volume and microbiological clearance of pathogens—all improved more with Bactrim therapy than with tetracyclines. G.I. side effects occurred in only 7% of patients treated with Bactrim compared with 12% of tetracycline-treated patients. (See Adverse Reactions in summary of product information on next page.)

Bactrim is contraindicated in pregnancy at term and nursing mothers, infants under two months of age, documented megaloblastic anemia due to folate deficiency and hypersensitivity.

Bactrim DS. For acute exacerbations of chronic bronchitis in adults* when it offers an advantage over single-agent antibacterials.

References: 1. Hughes DTD, Bye A, Hodder P: *Adv Antimicrob Antineoplastic Chemother 1/2*:1105-1106, 1971. **2.** Jordan GW *et al: Can Med Assoc J 112*:91S-95S, Jun 14, 1975. **3.** Beck H, Pechere JC: *Prog Antimicrob Anticancer Chemother 1*:663-667, 1969. **4.** Quintiliani R: Microbiological and therapeutic considerations in exacerbations of chronic bronchitis, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts;* Princeton Junction, NJ, Communications Media for Education, Inc., 1980, pp. 9-12. **5.** Schreiner A *et al: Infection* 6(2):54-56, 1978. **6.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **7.** Chodosh S: Treatment of acute exacerbations of chronic bronchitis: results of a double-blind crossover clinical trial, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts. Op. cit.*, pp. 15-16. **8.** Chervinsky P: Double-blind clinical comparisons between trimethoprim-sulfamethoxazole (Bactrim™) and ampicillin in the treatment of bronchitic exacerbations. *Ibid.*, pp. 17-18. **9.** Dulfano MJ: Trimethoprim-sulfamethoxazole vs. ampicillin in the treatment of exacerbations of chronic bronchitis. *Ibid.*, pp. 19-20. **10.** Medici TC: Trimethoprim-sulfamethoxazole (Bactrim™) in treating acute exacerbations of chronic bronchitis: summary of European clinical experience. *Ibid.*, pp. 13-14.

Economical b.i.d.

Bactrim™ DS

(160 mg trimethoprim and 800 mg sulfamethoxazole/Roche)

*Due to susceptible organisms. **Please see next page for summary of product information.**

Bactrim™

(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii.* It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets*, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100; Prescription Paks of 20 and 28. *Tablets*, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500, Tel-E-Dose® packages of 100, Prescription Paks of 40. *Pediatric Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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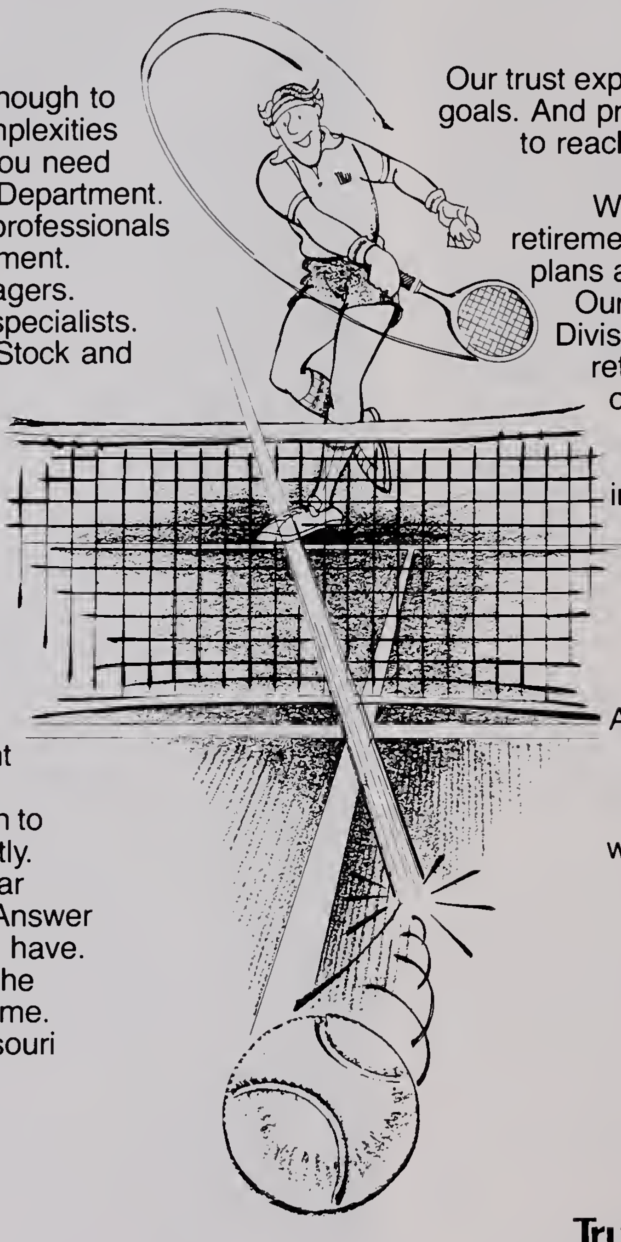

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Editor's Corner

The present era of great expansion of medical knowledge that we are now experiencing has its built-in drawbacks. Of all the pounds of new facts and factors for the physician to study and consider each year, how many ounces of this material is relevant to patient care and is, therefore, worthy of the clinical doctor's limited study time? This problem has been addressed in some thoughtful articles in the *JAMA* and other national publications recently. To make matters more complex, there has been a "journal explosion" during the past decade to where there are now estimated to be more than 1,000 publications available in the field of medicine.

The knowledge proliferation has been accompanied by another boom. The proverbial "need to publish," which has always been a central goal of the medical achievers, has grown to result in a deluge of articles being prepared for publication. It is in part to accommodate this need that new journals are being created out of sometimes obscure corners of the field of medicine.

Since there are only so many health professionals in practice with only so much time available to read and study, it stands to reason that there are fewer and fewer readers and studiers per article. There seems to be a concept that any medical article written, no matter how repetitious or irrelevant, deserves publication. It is in response to this philosophy that banning new journals has been proposed — as if such were possible. One of my professors long ago observed that for all the excess number of journals in print, there was still one yet to be formulated: "The Journal of Negative Results," in which the authors would tell of the various research ideas they had tried and that had fizzled.

Literally piled on top of the ever-expanding stack of journals and throw-aways are the more sophisticated knowledge transmitters — tapes (both audio and video), news letters and home study courses. To these may be added self-learning modules, "hot-line" telephone contacts to ivory towers, and hospital conferences on end. Sad but true, there's hardly any place in the grand scheme of things for that much more desirable medical conference in the Caribbean.

Almost lost to consideration is the time-honored medical library. Other than documenting basic techniques and giving background information, the content of most medical books is out of date before the volume hits the library shelf.

The practicing physician, aware of all of the above as it applies to his medical practice, must from time to time reassess his own program of continual learning and his system of fact-filing. Some of this may have to be structured to meet CME specifications or educational requirements of various boards or specialty organizations. Only by sticking to a program of constant updating by whatever modality is best suited to each of us can we keep abreast of medicine in this changing world and continue to do the job expected of us.

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Volume 80, Number 1 — January, 1983

Missouri Medicine

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Special Review Article

NIALL P. MADIGAN, M.D. *and*
KARL J. MUELLER, *Columbia*

Recent Developments in Cardiac Pacing

THE FIRST PERMANENT PACEMAKERS were implanted in the early 1960s. The basic indication at that time was in patients with complete heart block who had frequent Adams-Stokes attacks with near or complete syncope. Over the past 20 years, advances have been made so that the placement of permanent pacemakers can no longer be considered to be solely a life-saving measure. Now, each pacemaker should be *tailored to the individual needs* of the particular patient in whom it is to be implanted. In this article, there is discussion of such advances in permanent cardiac pacing, the experience at the University of Missouri-Columbia Health Sciences Center and the clinical approach by our pacemaker group in deciding which type of pacemaker system to implant in a particular patient.

Indications for Permanent Cardiac Pacing

A knowledge of the cardiac conduction system[1, 2] is important to understand the reasons for placement of a permanent pacemaker. A detailed description of this system is beyond the scope of this article. However, in brief, the cardiac conduction system can be considered to consist of two separate parts (Fig. 1), namely:

1. The upper conduction system that includes the sinus node, the intra-atrial tracts and the atrioventricular node.

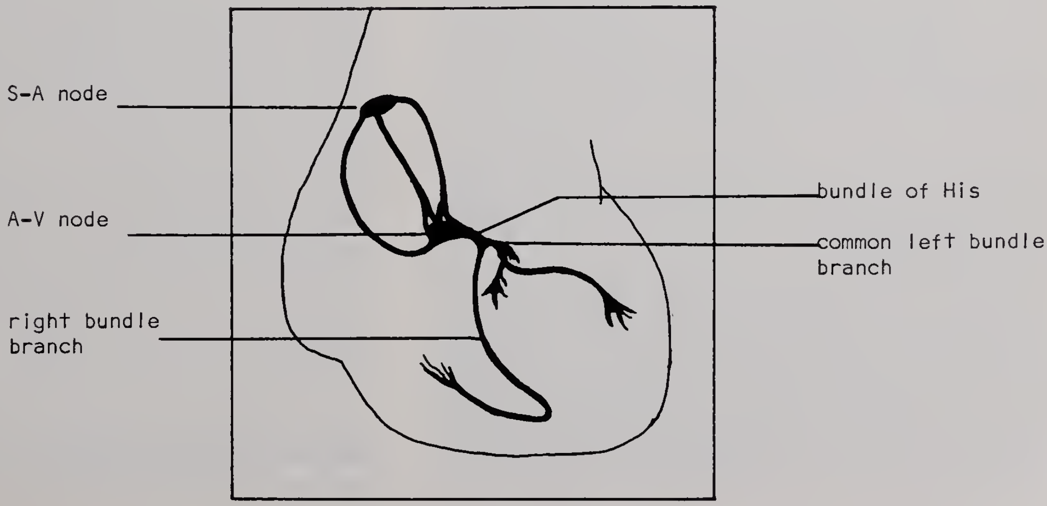

Fig. 1 Cardiac conduction system.

Permanent pacemakers are no longer considered to be solely life-saving devices since many new developments have resulted in a wide range of potential pacing systems available for the individual patient. The authors discuss these advances with particular emphasis on the advantages and disadvantages of physiological pacing systems and the types of physiological pacemakers to be considered.

Dr. Madigan and Mr. Mueller are from the Department of Cardiology, University of Missouri-Columbia Health Sciences Center.

2. The lower conduction system that includes the bundle of His, the right bundle branch and the two fascicles of the left bundle branch.

The indications for permanent pacemaker implantation are numerous, but they include disorders of the upper or lower conduction systems (or a combination of the two). The major indications are the following:

1. Sick sinus syndrome
2. Complete or advanced atrioventricular block
3. Fascicular block (some but not all)
4. Carotid sinus syndrome
5. Tachyarrhythmias (supraventricular or ventricular) not controlled by standard drug programs

Initially, the most common indication for pacemaker implantation was complete or high-degree atrioventricular block with resulting cardiac syncope (Adams-Stokes spells). However, there has been a gradual change so that at the present time, the majority of pacemakers are being implanted in patients with sick sinus syndrome.[3] Most patients have cardiac symptoms from their arrhythmia, such as near or complete syncope, dizziness or heart failure. It also is to be emphasized, however, that not all patients with conduction system disease will necessarily have symptoms from their disease.

At times, permanent pacemakers are implanted in anticipation of problems, such as following the development of transient complete heart block during acute anterior myocardial infarction.[4] Occasionally, pacemakers are placed in patients because of episodes of syncope that are compatible with those of cardiac origin but in whom no conduction system disorder can be elucidated. Clearly, all other causes of syncope have to be excluded first in these situations and a full cardiac electrophysiological study also is recommended for such patients. Excellent reviews[3, 5, 6] are available for greater indepth discussion of indications for permanent pacemaker implantation.

OF WHAT DOES A PERMANENT PACEMAKER SYSTEM CONSIST?

A pacemaker system consists of a pulse generator and its accompanying lead(s). The pacemaker generator includes an oscillator, amplifier and battery power source. The oscillator produces electrical impulses that travel from the pulse generator to the terminal part of the pacemaker leads. The resulting electrical stimulation causes muscle contraction of the particular cardiac chamber being paced.

The amplifier provides sensing ability by recognizing any spontaneous cardiac rhythm of the patient. The original pacemakers were without any sensing ability and, thus, were termed asynchronous units. Now, virtually all implanted pacemakers have sensing ability and are termed demand units. Either the QRS from the ventricles or the P-wave from the atria can be sensed.

Demand pacemakers can be temporarily converted to the asynchronous mode by the placing of a magnet over the pacemaker pulse generator. Following the sensing of the patient's internal electrogram, the pulse generator may be inhibited or triggered. In an inhibited system (Fig. 2), the pacemaker recognizes the patient's own QRS (or P-wave) and is then prevented or inhibited from firing an impulse. Next, a certain preselected interval is allowed (usually 800 to 1,220 msec) for the patient's next beat. The pacemaker fires an impulse only if no spontaneous intrinsic beat occurs within this interval of time.

The standard ventricular demand pacemaker (Fig. 2) is an example of an inhibited unit. A triggered pacemaker also senses the patient's QRS (or P-wave), but it is different since it will automatically fire an impulse after a predetermined interval from the sensed electrocardiogram. This interval is usually 100 to 200 msec. An example of a triggered pacemaker (Fig. 3) is an atrial synchronous pacemaker.

The impulse rate of permanent pacemakers may be preset at a single nonvariable rate in the factory (usually 72 beats per minute) or may be designed so that rate change can be performed by

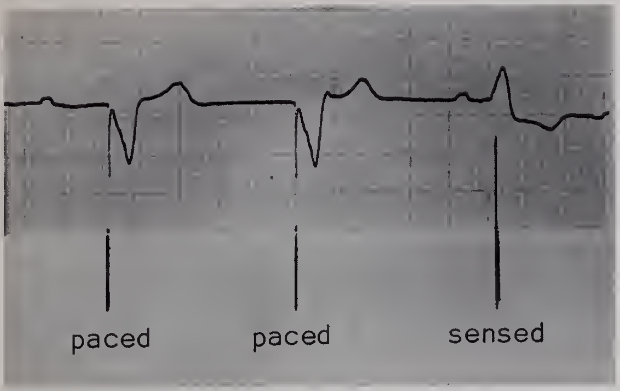

Fig. 2 Ventricular demand pacing. Spontaneous R-wave is sensed, inhibiting pacemaker.

using external programmers. This programmability has marked advantages in certain situations, and pacemakers with this design feature, therefore, are being implanted with greater frequency. The pacemaker pulse generator is connected by terminal pin(s) to the lead system. This lead system transmits the impulses generated by the oscillator and also transmits the patient's internal electrogram so that sensing can occur. The lead system can consist of an atrial lead, ventricular leads or both. They also can be either unipolar or bipolar. These can be placed transvenously to engage the endocardium of the right atrium and right ventricle or alternately to be placed on the epicardial surface of the heart.

Recent Advances in Permanent Pacemakers

1. *Advances to Retain Normal Cardiac Physiology*

Over the past 20 years, there have been many major advances in the design and technology of permanent pacemakers. It is becoming increasingly recognized that it is important to retain the maximal possible degree of normal cardiac physiology after pacemaker implantation. Traditionally, the standard pacemaker has been the ventricular demand system. Because of recent advances in pulse generators, lead systems and implantation techniques, "physiological" pacemakers have been developed and utilized.[7, 8] The function of the atria[9, 10] should be discussed in order to understand this development. This function involves the following:

1. To act as a conduit between venous beds and ventricles.
2. To provide a booster pump action ("atrial kick") so that ventricular filling is enhanced. This enhancement results in increased diastolic fiber length and, therefore, higher ventricular output because of the Starling mechanism.
3. To produce atrioventricular (i.e., tricuspid or mitral) valve closure before ventricular systole.

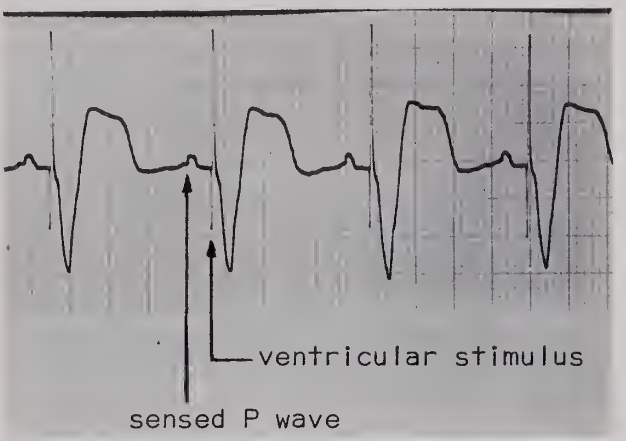

Fig. 3 Atrial-triggered (P-wave synchronous) pacing. Each P-wave is sensed and followed by ventricular pacing. A-V interval is 150 msec.

The sequential relationship between atrial and ventricular contraction *(atrioventricular synchrony)* is important for retention of maximal cardiac efficiency. Loss of this relationship *(atrioventricular asynchrony)* has many following detrimental hemodynamic effects:

1. Decreased cardiac output by an average of 20% (In our series, this decrease was as high as 50%.)[7, 11-13]
2. Hypotension: the magnitude of the blood pressure drop is variable and unpredictable, but can be as high as 50 mmHg in some patients.
3. Aggravation or precipitation of congestive heart failure
4. Worsening of mitral regurgitation[14]
5. Production of pacemaker syndrome, in which patients feel palpitations, fatigue and dyspnea

The problems resulting from atrioventricular asynchrony are probably far more common than previously believed. The loss of cardiac performance is of particular clinical importance in patients who already have underlying depressed ventricular function; such dysfunction is common in patients needing permanent pacemakers. In certain situations, such a loss can even be potentially catastrophic. Examples include aortic stenosis, obstructive cardiomyopathy and carotid sinus syndrome. In order to overcome these problems, pacemakers have been designed to retain as much of the normal cardiac physiology as possible. These physiological pacemakers include the following:

1. Atrial
2. Atrioventricular sequential
3. Atrial synchronous
4. Dual demand (universal)

All, except atrial pacemakers, need a two-lead system and are termed dual chamber pacemakers. One lead is placed in the ventricle and the other in the atrium so that the pacemaker acts as two pacemakers linked together to retain atrioventricular synchrony.

2. *Advances in Longevity and Programmability*

Recently, major improvements in the battery power source and the internal electronic circuitry of both ventricular and physiological pacemakers have occurred. Historically, the main power source was mercury zinc batteries that had a life span of two to four years. Now, these have been replaced with a lithium-iodine battery that may last at least ten years in certain pacemakers. Multiprogrammable pacemakers have been developed so that certain parameters such as pulse width, pulse rate and sensitivity can be externally altered by using specific devices placed over the pacemaker. By efficient alteration of the programmable features, longevity of the pacemaker may be potentially increased. An example would be a rate decrease in a patient who is not pacemaker-dependent. With the development of more complex pacemakers (such as physiological pacemakers), however, greater energy usage results in a reduced pacemaker life span.

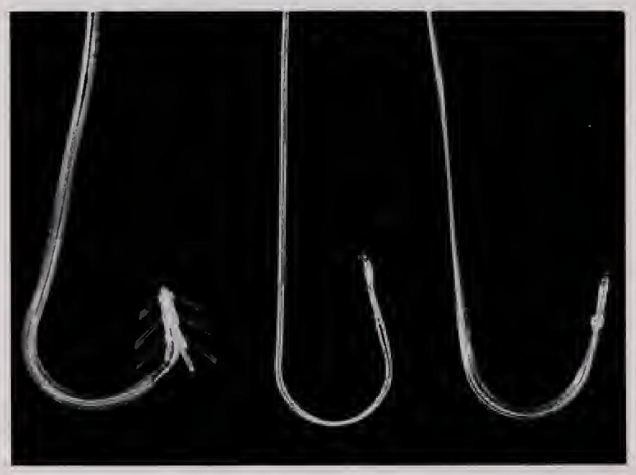

Fig. 4 Atrial endocardial leads: (1) Silastic tined "J," (2) urethane tined "J" and (3) screw-in "J."

3. *Advances in the Lead System*

Simultaneously, with improved design of the pacemaker pulse generator, major advances also have been made in lead design and size. Changes in the configuration of the distal electrode tips of endocardial leads have resulted in less current being needed for myocardial capture and, therefore, less energy usage. Fixation devices have been placed on the distal tip that have resulted in a marked decrease in the rate of lead dislodgement following implantation. Such fixation devices have included tines[15] (small plastic hooks) or screw type distal tips.[16] Since the right atrium is a relatively smooth walled chamber, one of the historical barriers to physiological pacemakers was the lack of an atrial lead that would not dislodge from the atrium. This has been overcome by the development of a "J" tipped electrode with small plastic tines for lodging into the right atrial appendage (a heavily trabeculated area of the right atrium).

If this is not successful or possible, a potential alternative is to use the atrial "J" screw-in electrode (Fig. 4). This is chosen for the atrium in patients in whom atrial lead dislodgement has occurred previously or in those patients with an amputated right atrial appendage from previous cardiac surgery. The present rate of lead dislodgement should now be less than 5% for both atrial and ventricular leads.[7, 14, 15, 17]

4. *Advances in Lead Implantation Procedures*

There are two basic routes of pacemaker lead implantation, namely, endocardial and epicardial. For pervenous placement of a ventricular endocardial electrode, the standard approach is to utilize the right or left cephalic vein by direct cutdown and venotomy. By using fluoroscopy, the ventricular electrode is then positioned into the apex of the right ventricle. Recently, direct puncture of the subclavian vein has been performed[18] with the use of venous introducer systems. Other veins that can be utilized are the external jugular and, occasionally, the internal jugular veins (the latter approach, however, carries a significantly higher risk).

With the advance in dual chamber pacing, two venous routes are needed for placement of the leads. In our institution, we prefer to place the atrial lead via the cephalic vein and the ventricular lead by using the same cephalic vein or by direct puncture of the subclavian vein. However, it is also possible to perform a double subclavian

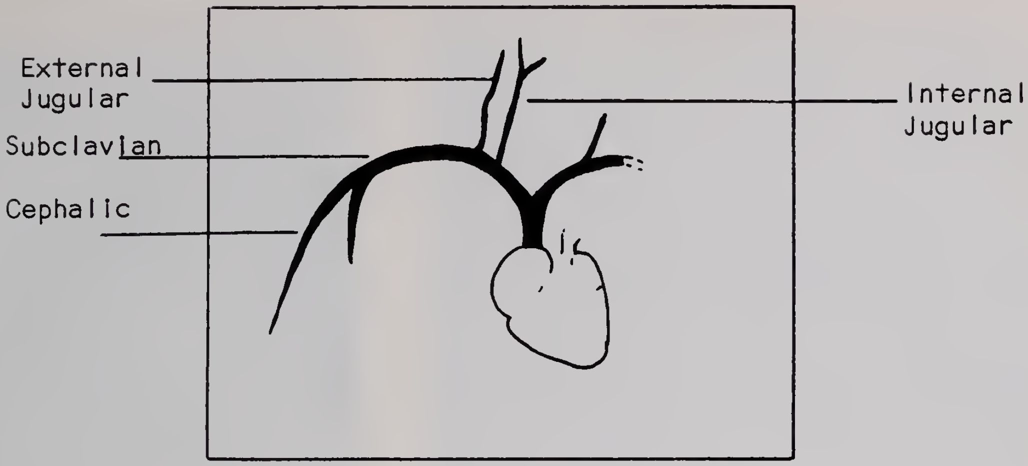

Fig. 5 Venous approaches for endocardial leads.

puncture or utilize other veins as previously described (Fig. 5). Epicardial electrodes may be placed at the time of open heart surgery or also can be placed by using a specific incision independently such as through the subzyphoid approach for ventricular screw-in electrodes.

Approach to Choice of Pacemaker

In choosing the type of pacemaker for a particular patient, a number of factors need to be considered. The pacemaker pulse generator and lead system need to be reliable. Our pacemaker group strongly favors pacemakers that retain maximal cardiac performance. Consequently, we frequently implant physiological pacemaker systems (in our institution approximately 50% of total new implants). However, the implanted pacemaker system should be technically appropriate for the patient because what is technically achievable is not always necessarily medically required for the patient. Increasing complexity of pacemakers results in increased interpretation problems of the electrocardiogram, increased risks for malfunction and decreased pacemaker longevity because of increased energy usage, (i.e., battery drain).

All pacemakers implanted in patients at the University of Missouri-Columbia Health Sciences Center are externally programmable so that any problems occurring with the pacemaker system after implantation can be potentially correctable without surgical intervention. Such programmable parameters include pulse width, sensitivity and atrioventricular (A-V) interval. The expertise and experience of the implanting physician/surgeon also needs to be considered. With more complex parameters, increased expertise will be necessary for both the implantation itself and the long-term follow-up of the patient.

The choice of pacemaker systems is outlined below:

1. *Ventricular Demand Pacing*

Nonphysiological ventricular demand pacing still remains the most common mode of permanent cardiac pacing in the United States, probably according for more than 90% of all units implanted. Ventricular pacing prevents asystole and problems associated with syncope or near syncope. Compared to physiological pacemaker systems, the advantages of ventricular pacing are as follows:

1. Greater experience and less cost
2. Less expertise and experience for implantation and follow-up
3. Less time for implantation
4. *Possibly* fewer complications following implantation. (Pulse generators are less complicated and only one lead is used.)

However, the following are major potential disadvantages of ventricular pacing:

1. Loss of atrioventricular synchrony with impairment of cardiac performance
2. No heart-rate change with exercise (if the patient is pacemaker dependent)

Therefore, in which patients who have been shown to need a permanent pacemaker, do we implant a ventricular system?

1. Patients with atrial fibrillation (paroxysmal or non-paroxysmal) since the atrium cannot be captured under these conditions
2. Elderly patients with physical/mental limitations

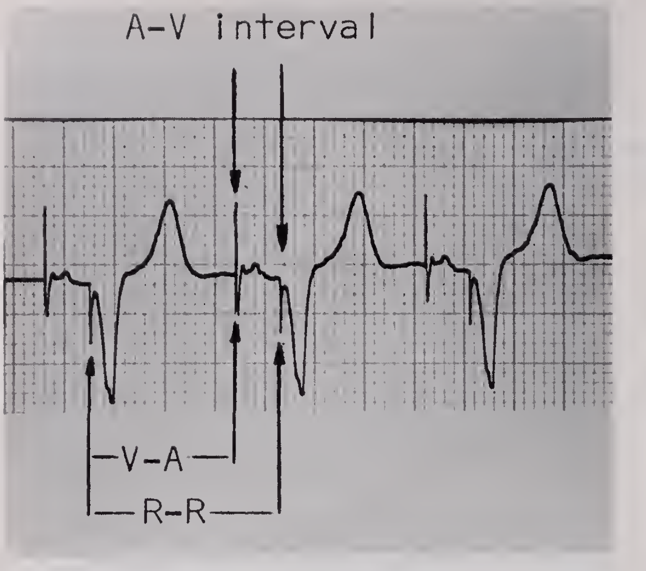

Fig. 6 Atrioventricular sequential pacing. A-V interval is 180 msec and pacing rate is 75 beats/minute.

3. Patients in whom the pacer is rarely activated and, thus, only acts as a back-up (e.g., rare transient atrioventricular block)
4. Ventricular tachycardia for overdrive pacing.[19]

2. *Atrioventricular Sequential Pacing*

The atrioventricular (A-V) sequential pacemaker has two demand and stimulation units with a common sensing circuit (i.e., the ventricular QRS complex). The pacemaker paces both the atrium and ventricle in sequence with a programmable A-V interval (i.e., equivalent to the PR interval) between atrial and ventricular activation. The sensing function of the pacemaker is solely by the ventricular QRS; there is no atrial sensing ability. In addition to programmability of the A-V interval, the pacing rate can be varied by adjusting the V-A interval (Fig. 6).

If necessary, the pacemaker also can be converted by external programming to a ventricular demand unit (e.g., if the patient subsequently develops permanent atrial fibrillation). The major advantage of the atrioventricular system is that it retains atrioventricular synchrony. In our early experience, the larger size of the A-V sequential pulse generator was a disadvantage, particularly in patients with a thin chest wall in whom the risk of erosion was increased.[7] However, the recent availability of smaller physiological pulse generators, this is becoming less of a problem. The need for a two lead system (Fig. 7) increases the potential for lead migration, dislodgement, or fracture. However, in our experience we have not found this to be a significant problem.[7] The increased complexity and the greater energy usage of this system has been discussed previously. Permanent A-V sequential pacemakers are chosen predominantly in patients with the following conditions:

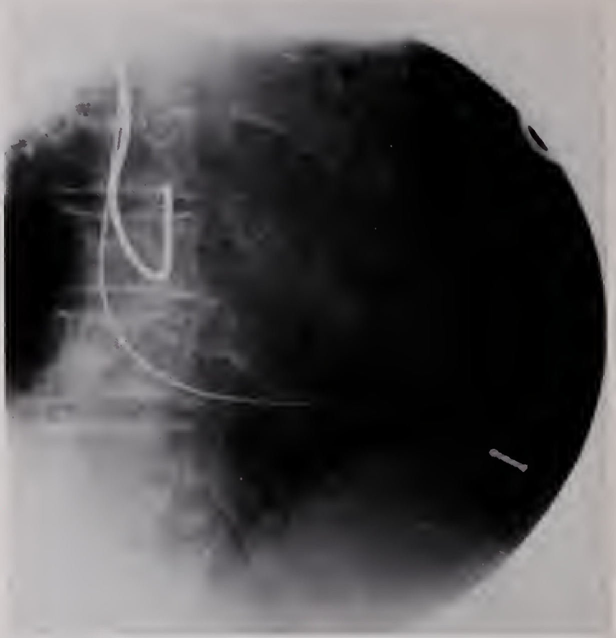

Fig. 7 A-V sequential pacing: Magnified view of (1) atrial lead in right atrial appendage and (2) ventricular lead in right ventricular apex.

1. Sick sinus syndrome, particularly in those with evidence of accompanying lower conduction disease such that atrial pacing alone would be potentially unreliable
2. Carotid sinus syndrome in which both transient sinus node and atrioventricular node dysfunction is common. Here, ventricular pacing alone can result in marked hypotension during the patient's spells.

3. *Atrial Demand Pacing*

Atrial demand pacing (Fig. 8) consists of a single lead that paces and senses the right atrium. The type of lead used is the same as the atrial lead in the A-V sequential system. A major advantage of atrial pacing is that it is a single lead system utilizing a smaller, less complex pulse generator. In addition, the ventricular activation sequence is normal since conduction occurs through the A-V node and His bundle. The disadvantages are the potential lack of ventricular pacing if intranodal or infranodal A-V block subsequently develops and the ineffectiveness in the presence of atrial arrhythmias, such as atrial flutter. The primary

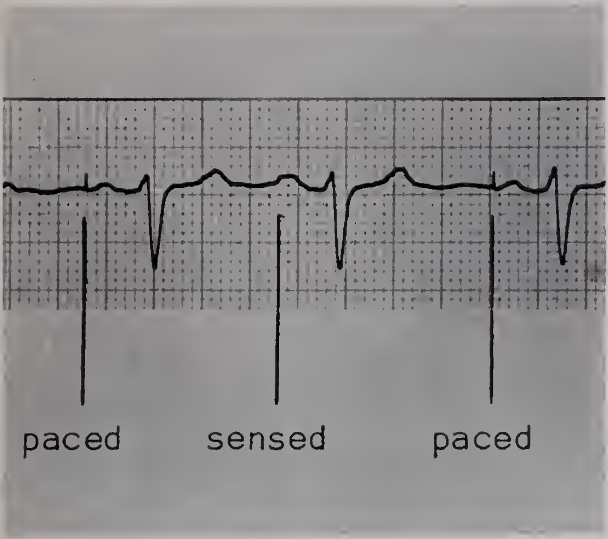

Fig. 8 Atrial demand pacing. Spontaneous P-wave is sensed, inhibiting pacemaker.

indication for atrial demand pacing is in patients with sick sinus syndrome without atrial tachyarrhythmias and in whom there is no evidence of intranodal or infranodal disease. Such evidence should include a full electrophysiological study.

4. *Atrial Synchronous Pacing*

In this type of pacemaker (Fig. 3) the atrial lead acts only as a sensor. Secondly, in the ventricle, it acts both as a sensing and a triggered pacing device. During atrial contraction the P-wave is sensed; next, after a predetermined interval (usually 150-200 msec) the ventricle is stimulated (i.e., triggered). Not only does this pacemaker retain atrioventricular synchrony. It also enables the patient to have a physiological heart-rate increase with exercise as long as the sinus node function is normal. The major disadvantage of an atrial synchronous pacemaker occurs if the patient subsequently develops sick sinus syndrome or atrial arrhythmias or needs medication that slows heart rate (e.g., Propanolol for angina).

Upper and lower rate limiting features are needed for this system. If the patient develops sinus bradycardia, usually fewer than 50 beats per minute, the pacemaker will function as a ventricular unit at a back-up rate of 50 beats per minute. Another potential problem is the sensing of retrograde atrial activation from premature ventricular activation (PVCs), but this probably can be avoided in the future by appropriate adjustment of pacemaker refractory intervals. The primary indication for atrial synchronous pacing is in patients with atrioventricular block, with normal sinus node function and without evidence of atrial tachyarrhythmias. An exercise test should be performed if at all possible prior to implantation to be certain that the sinus rate does increase normally with exercise.

5. *Dual Demand Pacing (Universal)*

This pacemaker can be considered equivalent to a combination of atrioventricular sequential and atrial synchronous pacemakers. This pacing system provides heart-rate increase with exercise as with the atrial synchronous pacemaker. If the patient develops sinus bradycardia, however, the back-up pacing mode is A-V sequential rather than ventricular. It functions, therefore, always as a physiological unit and can respond to heart rate changes, worsening conduction disease, addition of drugs, etc. Because of its complexity, there probably is a higher risk of malfunction compared to other physiological pacemakers. The indication for dual demand pacing is in patients with atrioventricular block, particularly in combination with sick sinus syndrome or sinus bradycardia that may be drug induced.

Summary

Advances in permanent cardiac pacing have resulted in the following:

1. Increased reliability and longevity of pacemakers
2. A decreased incidence of lead dislodgement and lead fracture
3. A wider choice of pacemaker type and the ability to externally program the pacemaker pulse generator following implantation. Such programmability is important also for nonsurgical evaluation of any pacemaker system malfunction.
4. Improved cardiac hemodynamics during pacing and avoidance of impairment of cardiac function seen with ventricular pacing alone.

It is important, thus, to choose the appropriate type of pacemaker for the individual patient. We have discussed the approach by our pacemaker group at the University of Missouri-Columbia Health Sciences Center in attempting to choose the appropriate type of pacemaker for the individual patient. We consider the benefits of physiological pacing to outweigh the potential disadvantages of such systems in many patients. Careful analysis is recommended so that the individual patient receives the appropriate perma-

(*Continued on page 20*)

LINDA C. LONEY, M.D., ROBERT J. ROTHBAUM, M.D.
and J. NEAL MIDDELKAMP, M.D., *St. Louis*

Silent Gonorrhea in Siblings

Case Reports

GONORRHEA is the world's most commonly reported communicable disease and is now epidemic in the United States.[1] The incidence of gonorrhea in preadolescent children is increasing, although the true incidence is uncertain. Gonorrhea is frequently not considered in the differential diagnosis of conjunctivitis or vaginal or urethral discharge in the pediatric age group. Cultures obtained may be inappropriately handled with delay in plating or may not be inoculated onto selective media even if gonorrhea is suspected. Such an infection frequently is not reported even if definitely diagnosed, or siblings and parents of the infected child are not cultured after the index case is discovered.

Several reports have referred to the sources and transmission of gonorrhea in preadolescent children.[2-6] The asymptomatic sibling carrier has been one source frequently overlooked, especially when recurrent infections were encountered. We have treated two families in whom asymptomatic carriers were found in siblings of the symptomatic patient and one family in whom all children were infected but asymptomatic. These cases emphasize the necessity of careful culturing of multiple sites of *all* family members in the identification and eradication of gonococcal infection in children and their families.

CASE REPORTS

Case #1 A 9-year-old black girl was first seen in the St. Louis Children's Hospital (SLCH) clinic at 7 years of age with a one-and-one-half year history of intermittent vaginal discharge and a one-month history of dysuria. Her mother had been treated for gonorrhea five months prior to this clinic visit. The patient slept with the mother and later with two-year-old and five-year-old brothers, but no longer with her mother. No history of sexual abuse could be elicited. The child's vaginal culture was positive for *Neisseria gonorrheae*. She was treated appropriately and the vaginal discharge and dysuria resolved. This child was lost to follow-up until one year later when her then 6-year-old brother had *Neisseria gonorrheae* cultured from a urethral discharge.

On examination at that time, the girl had an asymptomatic, minimal vaginal discharge that grew *Neisseria gonorrheae* on culture. Four months later, she again came to the outpatient clinic with dysuria. There was no vaginal discharge, but vaginal, rectal and throat cultures for *Neisseria gonorrheae* were obtained and the organism was isolated from her throat culture.

Throat, urethral and rectal cultures were obtained from the patient's two male siblings. The 6-year-old brother, who previously had *Neisseria gonorrheae* present on urethral culture, now had the same organism isolated from his oropharynx. No history of sexual abuse was obtained on repeated questioning, but the mother had been treated for gonorrhea again six months prior to the isolation of these organisms from the throat cultures of her two children. The children were treated appropriately and repeat cultures after treatment were negative.

Case #2 Two siblings, 5- and 6-year-old black girls, were seen in the SLCH clinic, both with a 4-day history of vaginal discharge. Vaginal cultures from the two girls grew *Neisseria gonorrheae*, and they were treated appropriately. Their eight siblings were examined, and rectal, throat and vaginal or urethral cultures were obtained from all the children. *Neisseria gonorrheae* was recovered from the rectum of their 12-year-old asymptomatic sister. No history of sexual abuse or play could be obtained from any of the children or caretakers. A 17-year-old stepbrother was treated for gonorrhea four months prior to these sisters clinic visits. There were ten children and two adults in this household with no consistent sleeping arrangement. Rectal, vaginal and throat cultures obtained two weeks later from these three girls were negative.

Case #3 A 4-year-old black girl was seen at a neighborhood health clinic for a preschool physical examination. She was noted to have a healed excoriation near the vaginal introitus. Although there was neither a vaginal discharge nor history of sexual abuse, cultures for *Neisseria gonorrheae* were obtained from the rectum, throat and vagina and the organism was isolated from the throat culture. Her 2-year-old sister and 7-year-old asymptomatic sister were cultured and both of their throat cultures grew *Neisseria gonorrheae*. Similar cultures obtained from the mother were negative. A maternal uncle, not living in the home, had been treated for gonorrhea during the preceding six months. No history of sexual abuse could be elicited from the children, their mother or the uncle. The children remained asymptomatic and repeat cultures two weeks later were negative.

All of our patients with culture-proven gonorrhea were treated with penicillin and responded with negative repeat cultures.

Discussion

A preadolescent child with culture-proven gonorrhea must be considered a potential victim of sexual abuse. The initial history may result in complete denial of such an occurrence, but this possibility should be explored on repeated occasions. It is often difficult to determine the specific source of a gonococcal infection in preadolescent children. Branch and Paxton[2] and Sgroi[7] have stated that sexual contact or abuse as a source of gonococcal infection in children can be identified in most cases if the appropriate questions are posed and adequate time is given to investigating the case. Nevertheless, nonvenereal transmission of gonorrhea in children has been suggested by several authors.[2, 5]

Other studies have shown that *Neisseria gonorrheae* can survive outside the body for as many as 24 hours.[8, 9] Contaminated thermometers were the suspected source of *Neisseria gonorrheae* in a newborn nursery outbreak of gonococcal arthritis in Philadelphia in 1924.[10] In a study published in 1965, Branch and Paxton[2] concluded that gonococcal infection in children less than one year of age resulted from poor parental hygiene. Both Shore[5] and Michalowski[11] suggested that children can contract gonorrhea by sleeping with parents or siblings who have the disease. Children may acquire gonococcal infections from nonvenereal contact, although it is often difficult, if not impossible, to determine whether the "contact" with parents or siblings was a sexual act. Therefore, sources for transmission of gonococcal infection such as sleeping with an infected parent or siblings or contact with infected siblings during play activity must also be considered by the physician.

Rice *et al*[12] used the term "gonorrhea nest" to describe the extended family (parents, siblings and other adults) of an infected child who may be infected in the absence of sexual abuse or venereal transmission of the infection. Tunnessen and Jastremski[13] and Potterat *et al*,[14] in their published case reports, emphasize the need to examine all contacts of a child with a proven gonococcal infection, regardless of the contacts' ages or symptomatology. The frequent hand-to-mouth activity of children may account for the throat culture isolates seen in our patients.

The incidence of gonococcal infection in preadolescent children is increasing in the United States. While it is often difficult to ascertain the source of infection in this age group, sexual abuse must always be considered. Although transmission of gonorrhea through fomites is unlikely, nonvenereal contact with asymptomatic siblings or parents may represent a source of infection or reinfection with gonococci in the preadolescent child. This article includes case reports of three families in whom *Neisseria gonorrheae* was cultured from asymptomatic siblings of an infected patient.

The authors are from the Edward Mallinckrodt Department of Pediatrics, Washington University School of Medicine and the Division of Ambulatory Pediatrics, St. Louis Children's Hospital.

Infection with *Neisseria gonorrheae* may be asymptomatic in man. Our cases illustrate that siblings or other adults within a household may be the source of infection or reinfection for the symptomatic child and, if not cultured and appropriately treated for their gonococcal infection, could certainly be a source of recurrent infection as was found in our patients.

Repeat cultures for gonococcal organisms are necessary after appropriate penicillin therapy in these patients in view of the introduction of penicillinase positive strains in the United States.[15] Such strains constitute more than 40% of isolates in some areas of the world.[16] Repeat isolation of gonococci after appropriate penicillin treatment is given would necessitate determination for penicillinase production by that specific isolate.

In summary, the demonstration of asymptomatic gonococcal infection in siblings of an infected individual indicates the importance of culturing all members of a household once a patient (adult or pediatric) has been identified. The asymptomatic nature of gonococcal infections in these siblings has prompted us to use the phrase "silent gonorrhea in siblings" when thinking about the epidemiology of gonorrhea in children.

We emphasize the importance of culturing the throat and rectum as well as obtaining vaginal or urethral cultures on these preadolescent children. Repeat cultures obtained after treatment are also important. Such visits afford opportunities to again pose questions concerning the possibility of sexual abuse by family members or caretakers and to determine the presence of penicillinase producing gonococcal organisms.

Acknowledgement: The authors wish to express appreciation to Dr. Michele Monaco and Ms. Kay Crawford, R.N. for their assistance in evaluating the family of the patient in Case #2 and to Dr. Philip Dodge for his editorial comments.

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Reprints: J. Neal Middelkamp, M.D.
St. Louis Children's Hospital
600 S. Kingshighway Blvd.
Box 14871
St. Louis, MO 63178

Cardiac Pacing

(Continued from page 17)

nent pacing system.

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Reprints: Niall P. Madigan, M.D.
Cardiology C07
University of Missouri
Health Sciences Center
807 Stadium Rd.
Columbia, MO 65212

You are older now than you have ever been
before and younger than you shall ever be again.
—Anonymous

ALPHONSE POKLIS, PH.D., MARY E. S. CASE, M.D.
and GARY C. RIDENOUR, M.D., *St. Louis*

Abuse of Pentazocine/Tripelennamine Combination

Ts and Blues in the City of St. Louis

PENTAZOCINE is a potent analgesic indicated for the relief of severe pain. Since its introduction to the American pharmaceutical market in 1967, the ability of pentazocine to produce psychic craving, euphoria, tolerance and physical dependence has been well-documented.[1-3] However, abuse of pentazocine has generally been associated with physicians' overprescribing, pharmacists' overfilling prescriptions or inadequate internal controls of institutional drug supplies.[4]

Prior to 1977, abuse of pentazocine was not associated with "heroin addicts" and was seldom encountered on the illicit drug market. This is a report of the abuse of pentazocine as a "street drug" and its increasing dominance of the illicit drug trade in the city of St. Louis.

ABUSE OF TS AND BLUES

Pentazocine is used in combination with tripelennamine, an antihistamine, that occasionally has been used by heroin addicts alone or in combination with narcotics (slang name: blue velvet).[5] The mixture of pentazocine and tripelennamine is known as "Ts and Blues." "Ts" refers to the trade name of pentazocine (Talwin®). "Blues" is slang derived from the light blue colored 50 mg tripelennamine tablets marketed under the trade name of Pyribenzamine®.

Users inject varying ratios of the pentazocine and tripelennamine tablets until the desired subjective or euphoric effects are obtained. Addicts refer to "doing 3/1 or 4/2 tablets." Presently in St. Louis, the tablets are sold as a "set" that costs $5.00 to $6.00 and contains one tablet of each drug. The tablets are placed in a vial and dissolved in a small quantity of water. Disintegration of the Talwin® tablets is rapid. Pyribenzamine® tablets, however, need to be ground to a powder to permit rapid dissolution. The resultant solution is drawn through cotton or a cigarette filter into a 3.0 ml syringe (often disposable insulin syringes) and injected intravenously. The commercially available parenteral ampules of pentazocine contain only 30 mg/ml of the drug and are not of sufficient strength to be sought by addicts.

Recently, addicts have stated that they are able to purchase "on-the-street drugs" premixed in 3cc insulin syringes. These reports are supported by police confiscations of drugs and drug paraphernalia. The premixed injectables sell for $5 to $12 each.

EFFECTS OF TS AND BLUES

Immediately following intravenous (IV) injection of "Ts and Blues," addicts experience a "rush" indistinguishable from that of heroin that lasts for five to ten minutes. The euphoric effects of the drug mixture lasts for several hours, after which users may experience feelings of restlessness, irritability, abdominal cramps and general malaise.

The most serious adverse reaction caused by "Ts and Blues" injection is tonic-clonic seizure.[6-8] The convulsions are apparently due to tripelennamine. Seizures and central nervous system stimulation are well-recognized side effects of large doses of antihistamine.[9] However, pentazocine may induce convulsant activity[10] or, at least, lower the seizure threshold in man.[11]

Addicts seem to be aware of tripelennamine induced convulsions and, therefore, seldom inject the drug alone. Other adverse effects that follow injection include headaches, vomiting, blurred vision, loss of memory, chest pains and palpitations. "Ts and Blues" may induce paranoid psychosis with nalorphine-like visual and auditory hallucinations or sleep disturbances and feelings of panic.[8] However, such psychological disturbances are generally brief.

At City Hospital, the following observed "Ts and Blues" withdrawal symptoms are similar to those of mild narcotic withdrawal: restlessness, insomnia, gastrointestinal upset and drug craving. These patients are easily managed with

Since 1977, the intravenous abuse of pentazocine/tripelennamine combination (Ts and Blues) has become a major drug abuse problem in St. Louis. Use of the drugs is a leading cause of drug deaths, admissions to drug treatment clinics, emergency visits by drug addicts and police narcotic arrests. Popularity of Ts and Blues is related to the poor quality of heroin in the market and the lack of strict legal controls. The most serious adverse reactions to Ts and Blues abuse are tonic-clonic convulsions and the development of pulmonary foreign body granulomatosis due to injection of insoluble tablet material.

Dr. Poklis is from the Departments of Pathology and Pharmacology and Dr. Case is from the Department of Pathology, St. Louis University School of Medicine. Dr. Case also is Deputy Chief Medical Examiner for St. Louis and Dr. Ridenour is Director of Emergency Service, St. Louis City Hospital.

chlordiazepoxide or diazepam. It has also been our experience that "Ts and Blues" users rarely overdose. When addicts are brought to the emergency room after a "Ts and Blues" injection, they are usually short of breath and tachycardiac and display varying levels of anxiety. Many abusers are brought in by friends and relatives after having witnessed a grand mal seizure.

The major pathologic changes of chronic "Ts and Blues" abuse are those associated with nonsterile injections and IV injection of insoluble tablet materials. The development of local and systemic infections and the transmission of disease (i.e., hepatitis, venereal disease) are well-known entities of IV drug abuse.[12] Pentazocine tablet filler includes microcrystalline cellulose and cornstarch, while tripelennamine tablet filler consists of talc (magnesium sterate). The development of pulmonary occlusive disease resulting from IV injection of tablet material has been well-documented.[13] Recently, several case reports have related "Ts and Blues" abuse with pulmonary foreign body (cellulose or talc) embolism or granulomatosis.[14, 15] The presence of foreign-body granulomas in lungs are a consistent finding in the medical examiner's autopsies of addicts.

Epidemic Abuse of the Drugs

Use of "Ts and Blues" apparently began in the fall of 1976 in Chicago and spread to St. Louis in the summer of 1977.[6, 7] Presently, use of the combination is confined to major metropolitan areas of the midwest, including Cincinnati, Detroit and New Orleans. Within the last year, however, intravenous abuse of pentazocine has begun in many eastern cities (i.e., Buffalo, Newark, Philadelphia), where the drug is combined with diphenhydramine or methylphenidate. The pentazocine-methylphenidate combination is popular in Kansas City. The rise in popularity of "Ts and Blues" among addicts has paralleled the decline in quality of "street heroin" preparations.[16] Beginning in 1977, for example, the purity of "street heroin" in St. Louis declined from 2.5% to the present strength of 0.5%. Prevalence of the abuse of any drug is impossible to accurately determine. However, the relevant increases and decreases in abuse may be demonstrated by various drug-use indicators such as our data from the St. Louis City Medical Examiner's Office, Police Laboratory and emergency room visits. From July, 1977 through July, 1981, 63 deaths involving "Ts and Blues" addicts were investigated by the City Medical Examiner's Office. Prior to this time, no medical examiner case involved pentazocine.

Of the 63 deaths, 57 were homicides and six were fatal intoxications from intravenous injection of "Ts and Blues." The homicide deaths involved 51 black men ranging in age from 20 to 40 years (mean ± SD, 28.6 ± 5.4 years); one white man, age 26 years; and five black women ranging in age from 18 to 38 years (mean ± SD, 30.4 ± 6.8 years). The six deaths due to "Ts and Blues" intoxication were of three black men (ages 20, 28 and 49 years) and three black women (ages 21, 25 and 45 years).[17] Other significant toxicological findings in the 63 deaths were ethanol and diazepam that were present in 45.3% and 12.5% of all patients, respectively. Addicts report using alcohol to "slow down" the intense subjective effects elicited by injection of the drugs and that alcohol allows them to extend the time between injections.

Since 1977, the number of "Ts and Blues" cases handled by the St. Louis police laboratory has dramatically increased. Prior to 1977 pentazocine was not a "street drug." During 1977-1978, fewer than 100 cases involved "T and Blues." Since then, except for Cannabis, "Ts and Blues" are the most often encountered drugs. In 1979, there were 265 cases; in 1980, 596 cases; and from January through July, 1981, 356 cases.[18] It should be noted that a single laboratory case may involve several tablets or several thousand tablets. During the 18-month period of January, 1979 to July, 1980, emergency room visits associated with pentazocine misuse have increased by 400% over 1977-1978 visits.[16] In 1978, 75% of the patients admitted to a city drug abuse treatment clinic indicated heroin as their primary drug problem, while only 8% reported "Ts and Blues." However, from July, 1980 to June, 1981, these percentages reversed and 75% of those seeking treatment were "Ts and Blues" addicts and only 14% used heroin.[19]

Our experience and belief is that of the Drug Enforcement Administration (DEA) that pentazocine is not clandestinely produced and is available to the illicit drug market by diversion from legal sources such as pharmacies, wholesalers or illegally obtained prescriptions. Figures compiled by the St. Louis District Office of the DEA from February, 1979 to June, 1981 from drug accountability investigations and reports of losses incurred by employee theft, night break-ins and armed robberies indicate that approximately 400,500 Talwin® 50 mg tablets and 453,000 dosages of Pyribenazmine® were made available for illicit drug use.[20] Continuing investigations indicate that potentially an additional half million Talwin® 50 mg tablets are presently unaccounted for in St. Louis. Reports from other major cities have suggested that pentazocine and tripelennamine are being distributed from St. Louis to other major cities.

LEGAL CONTROLS OF PENTAZOCINE

In 1977, when widespread abuse of "Ts and Blues" began in St. Louis, neither pentazocine nor tripelennamine were on the schedule of controlled substances. It was illegal to sell the compounds without a prescription under federal law. However, the offense was only a misdemeanor. Since pentazocine was sold to addicts as "synthetic morphine" and illicit sales were not a felony, the trade in "Ts and Blues" became a profitable, low-risk business. Indeed, since the introduction of the drugs, numerous "drug wars" have erupted over distribution rights. A St. Louis City homicide report in 1981 indicated that 24 "Ts and Blues" related murders occurred in only three housing projects. In 1979, the Drug Enforcement Administration added pentazocine to Schedule IV of the Controlled Substance Act, making the illicit sale or distribution of pentazocine a federal crime punishable by as many as three years in prison and/or a $10,000 fine for the first offense and up to double these penalties for the second offense. Presently, pentazocine is a Schedule II drug in the State of Illinois and the Drug Enforcement Administration is considering adding pentazocine to Schedule II of the federal code.

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Reprints: Alphonse Poklis, M.D.
St. Louis University Medical Center
Dept. of Pathology
1402 S. Grand Blvd.
St. Louis, MO 63104

> A great man shows his greatness by
> the way he treats little men.
> —THOMAS CARLYLE

THOMAS S. HELLING, M.D., *Kansas City*

Treatment of Caroli's Disease by Cholangiojejunostomy and Transhepatic Intubation

Case Report

ALTHOUGH CONGENITAL HEPATIC FIBROSIS was initially described by MacMahon in 1929,[1] the association with cystic dilatation of the biliary system was not fully appreciated until Caroli's treatise in 1958.[2] Since then, case reports have described cystic dilatation of the biliary tract that has involved the extrahepatic system or the intrahepatic system, usually in association with congenital hepatic fibrosis, or both. However, biliary cysts in association with atretic or hypoplastic extrahepatic ducts have only been described in neonates and children.

The operative approach to obtain adequate drainage of cystically dilated bile ducts, particularly those intrahepatic in location, has varied and has usually been tailored to the individual situation. We have employed a technique based on Longmire's procedure of lateral cholangiojejunostomy[3] to obtain biliary drainage in a young woman with congenital hepatic fibrosis, multiple intrahepatic biliary cysts and a hypoplastic extrahepatic ductal system.

This is a case report of a patient who had congenital hepatic fibrosis, diffuse sacculations of the intrahepatic biliary tree and hypoplasia of the extrahepatic bile ducts. To relieve the patient's severe hyperbilirubinemia, a modification of Longmire's cholangiojejunostomy was used and left lateral segmentectomy was performed and a cyst-jejunostomy was fashioned employing a Roux-en-Y limb. Transhepatic intubation through the cholangiojejunostomy was used to periodically irrigate the biliary system thus minimizing bile stasis.

Although the tube was removed after eleven months, results to that point were encouraging with no further episodes of severe jaundice or cholangitis.

Dr. Helling is from the Department of Surgery, University of Missouri-Kansas City School of Medicine and Truman Medical Center.

CASE REPORT

A 22-year-old black woman was admitted to Truman Medical Center on Sept. 28, 1979 with complaints of abdominal pain on the right side, pruritus and malaise. The duration of these symptoms was two weeks. The patient specifically denied having had fever or chilling. Her past medical history, as obtained from the patient and her mother, was significant in that she had intermittently had jaundice since two weeks of age and had been hospitalized on two previous occasions for pain and jaundice. Otherwise, growth and development had been normal except for severe scoliosis requiring insertion of a Herrington rod.

At the time of physical examination, the patient was afebrile. Scleral icterus was obvious. Her liver was not palpable, but the tip of the spleen could be felt. Results of admission laboratory work showed the following values: total serum bilirubin, 22.0 mg/dl; alkaline phosphatase, 398 IU/L (normal less than 115); serum glutamic oxaloacetic transaminase (SGOT), 81 IU/L (normal less than 40) and prothrombin time of 10.3 seconds (control 10.8 seconds). The white blood cell count was 4,200 cells/cu mm; hematocrit, 42.7%; and platelet count, 201,000. The antimitochondrial antibody determination was negative.

Abdominal ultrasonography showed multiple sonolucent structures in the liver compatible with cysts or dilated biliary radicles (Fig. 1). An intravenous pyelogram was interpreted as normal.

An exploratory celiotomy was performed on Oct. 3, 1979. The liver appeared cirrhotic but no ascites were present and there was no obvious evidence of portal hypertension. Her gallbladder was removed. Cystic duct cholangiograms followed by transhepatic cholangiograms demonstrated saccular dilatations of intrahepatic ducts in both the right and left lobes and an extremely narrow common bile duct (Fig. 2). A liver specimen biopsy was interpreted as congenital hepatic fibrosis and cystically dilated epithelium lined bile ducts (Fig. 3). Transhepatic drainage was established by way of a small percutaneous catheter and the operation was terminated. Aspirates of the cyst fluid failed to yield any parasitic organisms.

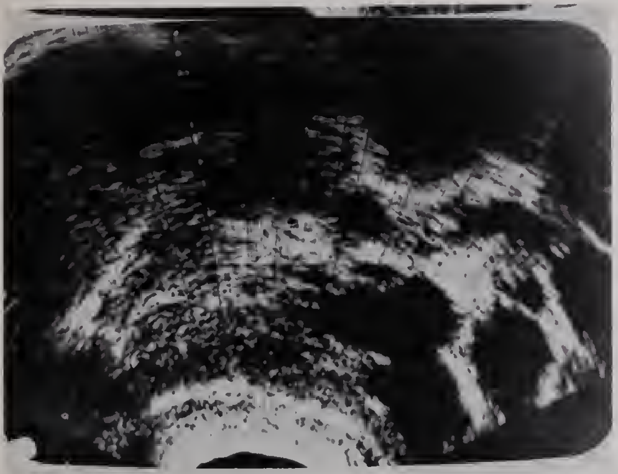

Fig. 1 Abdominal ultrasonography demonstrates multiple sonolucent areas later shown to be intrahepatic biliary cysts.

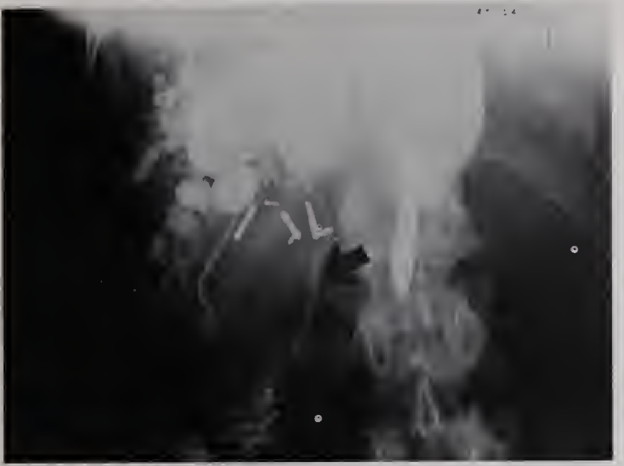

Fig. 2 Percutaneous transhepatic cholangiography that verified ultrasound findings of multiple saccular dilatations of the intrahepatic biliary system involving right and left lobes. Note the hypoplastic common bile duct *(arrow)* that measured 1 mm at operation. A Herrington rod apparatus is seen over the spine.

The patient's serum bilirubin initially responded to percutaneous drainage and decreased to 15.6 mg/dl by Oct. 10, 1979. However, it again began to increase and was 17.1 mg/dl on 10-14-79. Biliary drainage was not felt to be adequate and she was returned to the operating room on Oct. 15, 1979. At that time, the hilum of the liver was explored and the common bile duct was found to be extremely narrow, measuring 1 mm in diameter.

Because of the hypoplastic extrahepatic ductal system, a modification of the Longmire procedure was used to establish adequate biliary drainage. A left-lateral segmentectomy was performed and the cystically dilated bile duct was anastomosed to a Roux-en-Y limb of jejunum. Prior to completion of the anastomosis, a perforated transhepatic tube was inserted through the right ductal system across to the left ductal system and into the jejunal limb. Both ends were then brought out of the abdominal wall (Fig. 4).

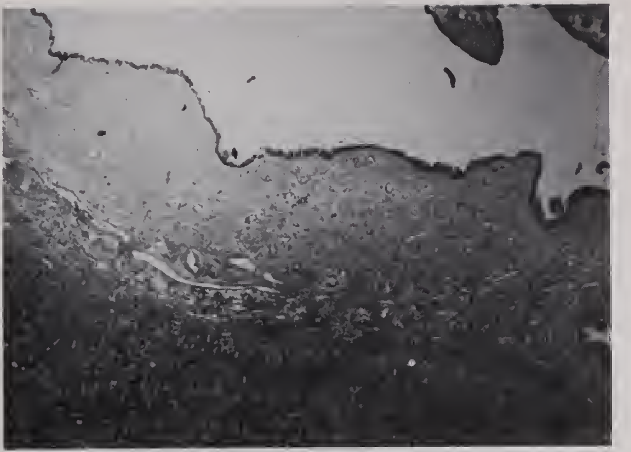

Fig. 3 Photomicrograph of the liver specimen biopsy. Note well preserved liver parenchyma and a dilated bile duct lined by low cuboidal epithelium (hematoxylin and eosin, × 40).

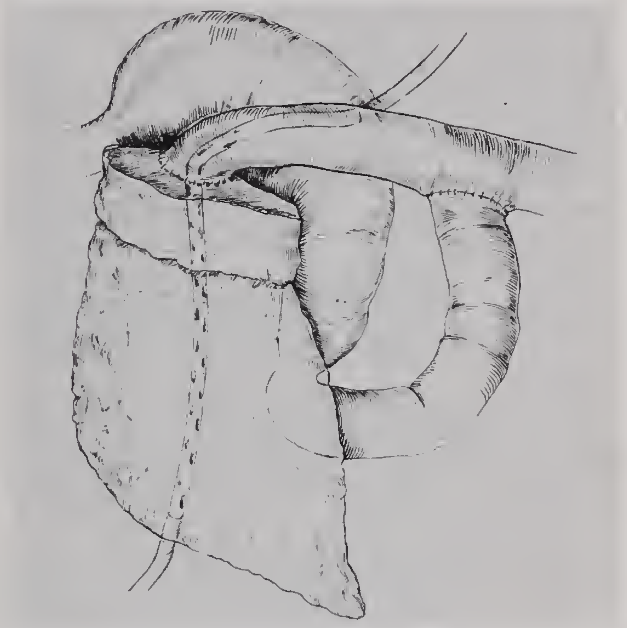

Fig. 4 Surgical technique to obtain satisfactory biliary drainage consisted of left lateral segmentectomy and cholangiojejunostomy (utilizing the large lateral biliary cyst seen in Fig. 2) employing a Roux-en-Y limb of jejunum. Fenestrated silastic catheter was passed into the right ductal system, left ductal system and across the cyst-jejunostomy. Both ends were brought out the abdominal wall.

Postoperatively, the patient's bilirubin decreased gradually to 2.0 mg/dl. A followup cholangiogram through the transhepatic tube showed prompt filling of the jejunal limb. Results of the liver function tests remained stable for approximately six months after which a slow rise in the serum bilirubin and alkaline phosphatase were noted. The transhepatic tube was removed on Sept. 4, 1980 for fear that it was obstructed and a second cyst-jejunostomy was performed in the right lobe to facilitate drainage. Symptomatically, the patient has done well with no episodes of cholangitis or severe abdominal pain, although her serum bilirubin on Dec. 5, 1980 remained elevated at 5.1 mg/dl.

DISCUSSION

Congenital hepatic fibrosis, in itself, can be a relatively benign and asymptomatic process in many patients and may exhibit normal liver function chemically and preserved liver architecture histologically. Associated portal vein hypoplasia is thought to cause portal hypertension in some patients with resultant bleeding sequelae, but extended survival is not unusual even if portosystemic shunting is required. The condition may not become apparent until adult years when hepatomegaly, splenomegaly and intrahepatic portal hypertension, without other stigmata of chronic liver disease, makes the diagnosis likely.[4]

However, cystic dilatation of the intrahepatic biliary system, so called "Caroli's disease" from his comprehensive review of the subject,[2] usually causes episodes of cholangitis with intermittent jaundice, fever, right upper quadrant pain and even fatal septicemia. There is frequent association with congenital hepatic fibrosis and, if the two conditions coexist, the clinical course may not be innocuous. While antibiotics can frequently control cholangitic episodes, operative intervention may be necessary if biliary calculi are present or if the cholangitis is unresponsive to antibiotic therapy.

Although atresia or hypoplasia of the extrahepatic ducts in association with biliary cysts in eight infants was described by Kasai and colleagues[5] and later by Klotz and associates[6] in four additional neonates, no case of biliary hypoplasia and cystically dilated ducts has been reported in adults. In pediatric ages, biliary hypoplasia usually is associated with secondary biliary cirrhosis and the prognosis is poor.[7] In the case presented here, congenital hepatic fibrosis, cystically dilated intrahepatic ducts and hypoplasia of extrahepatic ducts were found. Unlike pediatric patients, however, the biliary hypoplasia was not associated with evidence of long-standing obstruction (biliary cirrhosis).

Operative treatment for symptomatic biliary cysts has varied. Mercadier and co-authors[8] performed a hepatectomy on the left side and hepaticojejunostomy on the right side in a patient with cystic dilatation of the intrahepatic duct while Longmire and associates[9] were able to avoid hepatic resection and instead anastomosed jejunum to a dilated left hepatic duct in one patient and jejunum to common hepatic duct in another patient with congenital biliary cysts, with good results.

Lorenzo and associates[10] have well described the difficult surgical problems that may be encountered in their report of a patient eventually treated with choledochojejunostomy for recurrent episodes of cholangitis due to dilated intrahepatic bile ducts. The primary difficulty seems to be establishment of adequate drainage of biliary cysts in order to prevent stagnation of bile and calculus formation with the risk of subsequent infection. This may be difficult to accomplish in many cases since the sacculations can be multiple and distributed in both the left and right ductal systems, as in the case presented here. Furthermore, the liver hilum may be hazardous to approach either because of scarring from previous operations or portal hypertension or, as in our patient, be unsuitable because of hypoplastic extrahepatic ducts.

Longmire and Sanford[3] introduced the procedure of intrahepatic cholangiojejunostomy for benign or malignant biliary structure as an alternative to hilar dissection in 1948. Even though in principle it had applicability, the technique failed to gain popularity because of the difficulty in locating the left hepatic duct intraoperatively and difficulty in maintaining long term patency of the duct-enteric anastomosis. Cameron and colleagues[11] modified the Longmire cholangiojejunostomy in a patient with a benign stricture of the left hepatic duct by identifying the left duct preoperatively and by using prolonged transhepatic stenting across the duct-enteric anastomosis, a technique that they had successfully used previously to prevent stricture.[12] They reported good results in this patient after 13 months of followup.

We believed that a similar approach utilizing a lateral cholangiojejunostomy and transhepatic stenting employing a fenestrated silastic catheter would afford an avenue for periodic irrigations to prevent or minimize bile stasis in both the right and left lobes. Clearly, from the radiographic appearance of Fig. 2, there was no practical way of directly draining each biliary cyst. In addition, the extrahepatic system was hypoplastic and was judged inadequate for any hilar drainage procedure. The transhepatic stent was left in place for approximately eleven months with reasonable control of serum bilirubin, and no other episodes of clinical jaundice or cholangitis, even though a slow but steady rise in serum bilirubin was noted.

Although cystically dilated intrahepatic ducts with or without congenital fibrosis is an uncommon condition, the modification of Longmire's procedure as adapted to our patient may provide a useful operative approach in such patients. Hilar dissection can be avoided. This is a particular advantage if portal hypertension is present and there is an avenue for periodic irrigation of the biliary tract to minimize bile stasis and to avoid or reduce disabling episodes of cholangitis.

Acknowledgement: The author wishes to express his appreciation to Robert J. Salem, M.D. of Lubbock, Tex., for his cooperation in providing followup information about this patient.

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Academy's *Primer on Allergic and Immunologic Diseases* published by JAMA

The *Journal of the American Medical Association* (JAMA) devoted its entire November 26, 1982 issue to publishing a *Primer on Allergic and Immunologic Diseases*. The 194 page document, prepared under the auspice of the American Academy of Allergy and Immunology (AAAI), provides an authoritative and concise learning tool for medical students, residents and clinical practitioners, and is a comprehensive introduction to the practice of this rapidly expanding medical specialty according to I. Leonard Bernstein, M.D., president of AAAI.

As a public service, the AAAI and the National Institute of Allergy and Infectious Diseases will provide *complimentary copies* of the *Primer* to third- and fourth-year medical students in all United States and Canadian medical schools. Single copies are available at a cost of $10.00 through the AAAI, 611 E. Wells St., Milwaukee, WI 53202. Revised editions of the *Primer* will be prepared at four year intervals.

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President's Message

A Day in the Life of the Missouri Delegation to the AMA

It is 6:30 AM on Monday, Dec. 6, 1982. Twenty-four Missourians are meeting at breakfast for the first Missouri Delegation caucus at the AMA Interim Meeting in December. There are 84 resolutions, several Board of Trustees' reports and a varying number of reports from each of the six AMA councils included in the Handbook, which is a very thick, loose-leaf binder weighing slightly more than eight pounds when carried together with the associated documents distributed to delegates at this meeting.

John I. Matthews, M.D.

Today, the Caucus will consider resolutions and reports referred to Reference Committees A through D and to the Committee on Amendments to the Constitution and Bylaws. Material referred to reference committees E through H will be discussed tomorrow. Dr. Mel Kasten, chairman of the MSMA Delegation, presents the report regarding the Committee on Constitution and Bylaws and asks Drs. Hugh Stephenson, Dick Bradley, Frank Lieb and Andrew McCanse to give their report. Each, together with one or two other members of the delegation, had previously been assigned to cover these respective committees. The meeting lasts until 8:45 AM, when it is adjourned by the chairman so that members can get to their assigned reference committees, that begin hearings at 9 AM.

This observer attends the meeting of the Committee on Amendments to the Constitution and Bylaws at which six resolutions and three reports from the Judicial Council are debated by delegates from several states and by members of the Resident Section and Student Section. Many points of view, both pro and con, are presented regarding each issue. By noon, this committee hearing is over, but most of the other reference committee meetings are not completed until later in the afternoon. Dr. Stephenson and Dr. Robert Slickman, who serve on Reference Committees A and F respectively, labor on reports of these committees far into the evening.

From 6 PM to 8 PM, the MSMA Delegation is hosting a reception for Dr. George Bohigian of St. Louis, who is a candidate for the AMA Council on Scientific Affairs at the Annual Session in June. Dr. Kasten had assigned specific hours for each member of the delegation to assist with the reception. Specific state delegations had also been assigned to each MSMA delegate and alternate delegate for personal surveillance and contact to advance our candidate. The reception is very successful with a large number of other state delegates coming and going between 6 PM and 8:30 PM.

Now . . . it is 11 PM. We have had dinner together in small groups. The controversial issues among the 84 resolutions and numerous Trustee and Council reports have been isolated and decisions are to be made. The caucus will begin tomorrow at 7 AM.

(Continued on next page)

The following Missourians attended the caucus at the AMA Interim Meeting:

President John I. Matthews, M.D., Jefferson City
President-Elect, Ronald A. Youmans, M.D., Kansas City
MSMA Vice-Speaker, Barbara Buchanan, M.D., Kansas City (Psychiatric Section)
Immediate Past-President, E. T. Hansbrough, M.D., Poplar Bluff
MSMA Delegate, Melvin C. Kasten, M.D., Cape Girardeau
MSMA Delegate, Hugh E. Stephenson, M.D., Columbia
MSMA Delegate, Francis X. Lieb, M.D., St. Louis
MSMA Delegate, Robert A. Slickman, M.D., Kansas City
MSMA Delegate, George M. Bohigian, M.D., St. Louis
Alternate Delegate, Vernon Balster, M.D., St. Louis
Alternate Delegate, Richard V. Bradley, M.D., St. Louis
Alternate Delegate, Andrew McCanse, M.D., St. Louis
Alternate Delegate, Richard P. Bowles, M.D., Liberty
Alternate Delegate, Marvin A. Singleton, M.D., Joplin
Hubert Ritter, M.D., St. Louis, member of AMA Board of Trustees
George E. Thoma, M.D., St. Louis, member of the AMA Council on Medical Education
Dr. John Martin, St. Joseph, Chairman of MMPAC
William J. Medlicott, M.D., Kansas City Delegate from the American Academy of Orthopaedic Surgeons
R. R. Hannas, M.D., Kansas City, Delegate from American College of Emergency Physicians
William C. Allen, M.D., Representative from the University of Missouri-Columbia
T. J. Cooper, M.D., President of St. Louis Metropolitan Medical Society
Mike See, M.D., Columbia, currently a surgical resident at the Mayo Clinic
Mike Kastan, St. Louis, Washington U., Delegate to the AMA Student Section and member of the AMA Council of Scientific Affairs
MSMA Executive Secretary, Royal O. Cooper, Jefferson City
MSMA Assistant Executive Secretary C. C. Swarens, Jefferson City
Ron Garrett, Executive Secretary, St. Louis Metropolitan Medical Society

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MSMA Auxiliary

Looking Ahead to 1983

With the dawning of 1983, perhaps we, like Essayist Charles Lamb in "New Year's Eve" will ". . . feel the audits but too powerfully . . . (and) begin to count the probabilities of (our) duration, and to grudge at the expenditure of moments . . . like miser's farthings. In proportion as the years both lessen and shorten, (we) set more count upon their periods."

January, characterized by the two-faced Roman God, Janus, who is symbolic of time, past and future, signifies reflection on the past and anticipation of the future. The MSMA Auxiliary is proud of its 58 years of community service as an extension of the medical profession. We look forward to our continuing and increasing role as volunteers in the health care of our communities.

Our role includes being knowledgeably involved with the legislative process, since it prescribes to a great extent the future of health care delivery. On February 22, members of the MSMA Auxiliary will travel to Jefferson City for our "Day at the Legislature." We will tour the capitol, visit House and Senate sessions, be recognized in both and then have lunch at the Governor Hotel with our legislators. Those attending from each auxiliary will have invited their legislators to be their guests at the luncheon. We will conclude the Day with a tour of the Governor's Mansion.

Mrs. Sam Gaston
President

Please, Doctor, urge your spouse to reserve February 22 for coming to Jefferson City for this special day of fun and information. We hope each auxiliary will be represented.

With the Annual Convention only a few short weeks away, let me urge you to plan now to join us at Tan-Tar-A Resort on Thursday, March 17, at 6:30 P.M. for Auction V, the annual AMA-ERF and MSMF Benefit Auction. This year, we are initiating a new format. For your convenience and enjoyment of the evening, we are planning a buffet dinner prior to the auction. We need Auction items (services, "propositions," etc.) from you, your society and auxiliary. Some items will be designated for the "Silent Auction." Please inform the chairman, Mrs. Robert Pavlu, 1200 Hillcrest Dr., Carrollton, 64633 [Ph. (816) 542-3569], of your offerings as soon as possible. As always, you may designate your "purchase money" for the Missouri State Loan Foundation or AMA-Education Research Foundation. This is a fun time, and everyone benefits! Let's make it a record-breaker this year!

In 1983, may you have:

Enough happiness to keep you content
Enough trials to keep you strong
Enough sorrow to keep you human
Enough hope to keep you happy
Enough failure to keep you humble
Enough success to keep you eager
Enough friends to give you comfort
Enough wealth to meet your needs
Enough enthusiasm to look forward
Enough faith to banish oppression
Enough determination to make each day better than yesterday.

Happy New Year!

Lillian Gaston

For EVERY Member of the MSMA!

Opportunity

to meet with other Missouri physicians, exchange views and influence decisions important to the medical profession and health care.

Missouri State Medical Association

125th ANNUAL CONVENTION

March 17-20, 1983

Tan-Tar-A Resort, Osage Beach
Lake of the Ozarks

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- SOCIO-ECONOMICS AFFAIRS
- MEDICAL EXHIBITS
- MSMF/AMA-ERF BENEFIT AUCTION

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Preliminary Program

MISSOURI STATE MEDICAL ASSOCIATION

125th Annual Convention

Tan-Tar-A, Lake of the Ozarks, Osage Beach

March 17-20, 1983

THURSDAY, MARCH 17

8:00 AM Registration of Delegates. Windgate Foyer.
10:30 AM **House of Delegates, Opening Session.** Windgate Center.
12:00 NOON Student Councilor District Luncheon. Windgate 70.
12:00 NOON Jackson County Medical Society Luncheon, Ballroom.
12:00 NOON St. Louis Metropolitan Medical Society Luncheon. Parasol Room.
1:00 PM Reference Committee Meetings.
Windgate 60-61.
Windgate 62-63.
Windgate 74-75.
Windgate 64.
5:30 PM Reception honoring MSMA President-Elect Ronald A. Youmans, M.D. and MSMA Auxiliary President-Elect, Mrs. Donald Sanders. Parasol Room.
6:00 PM Missouri State Surgical Society Board of Directors. Cocktails and Dinner. Parasol Foyer.
6:30 PM MSMA Auxiliary Fifth Annual Benefit Auction of the AMA-ERF and MSMF. Windgate South.

FRIDAY, MARCH 18

7:00 AM Councilor District Breakfasts.
7:45-
11:00 AM Complimentary Coffee and Rolls. Windgate North.
8:00 AM Registration. Windgate Foyer.
8:30 AM Missouri University Board of Directors. Breakfast and Meeting. Windgate 64.
9:00-
10:30 AM **General Session.** Windgate Center.
Introductions: John I. Matthews, M.D., Jefferson City, MSMA President
Speaker: Spence Meighan, M.D., Portland, Ore. "The Promised Land
Speaker: Harrison L. Rogers, Jr., M.D., Atlanta, Ga., Speaker, American Medical Association House of Delegates, "Current AMA Activities."
10:30 AM **Intermission to View Exhibits.**
10:30 AM MOMEDICO Board of Directors and Stockholders Meeting. Windgate 63.
11:00 AM Committee on the Impaired Physician Luncheon. Windgate 74.
11:00 AM-
12:30 PM *Scientific Session*. Sponsored by the American Cancer Society, Missouri Division, Inc. Windgate 61.
11:00 AM-
12:30 PM *Scientific Session. Windgate 71.*
"Advances in Respiratory Failure"
Speaker: Roger C. Bone M.D., Professor of Medicine, Chief, Pulmonary Division, University of Arkansas School of Medicine, Little Rock.
Sponsored by the Missouri Thoracic Society.
11:00 AM-
12:30 PM *Scientific Session*. Sponsored by the Missouri State Surgical Society. Windgate 75.
12 NOON Jackson County Medical Society Luncheon. Drawing Room.
12:30 PM Missouri University Medical Alumni Luncheon. Windgate 72.
12:30 PM Missouri Thoracic Society Luncheon and Annual Meeting. Windgate 76.
1:00-
4:00 PM *Scientific Session*. Sponsored by the Missouri Psychiatric Association. Windgate 63.
1:00-
4:00 PM *Scientific Session*. Sponsored by the Missouri Dermatological Society. Windgate 71.
2:00-
3:30 PM *Scientific Session*. Sponsored by the Missouri Society of Pathologists. Windgate 60
2:00-
3:30 PM *Scientific Session*. Sponsored by the Missouri Society of Internal Medicine. Windgate 70.

2:00-3:30 PM *Scientific Session*. Sponsored by the Missouri State Surgical Society. Windgate 75. Business Meeting immediately following Scientific Session.
2:00 PM St. Louis Metropolitan Medical Society Caucus. Ballroom.
2:30-4:00 PM Missouri State Medical Foundation Annual Meeting. Windgate Center.
3:30 PM **Intermission to View Exhibits.**
4:00 PM **HOUSE OF DELEGATES, SECOND SESSION.** Windgate Center.
4:30 PM Missouri Dermatological Society Board Meeting. Windgate 71.
6:00 PM Reference Committee Meetings.
6:30 PM Missouri Psychiatric Association Business Meeting. Cocktails and Dinner, Drawing Room.
6:30 PM Missouri State Surgical Society. Cocktails and Dinner. Windgate 72.
6:30 PM Missouri Society of Pathologists. Cocktails and Dinner. Parasol Room.
6:30 PM Missouri Society of Anesthesiologists. Cocktails and Dinner. Ballroom.
7:00 PM Missouri Dermatological Society. Cocktails and Dinner. Windgate 70.
7:00 PM Missouri Ophthalmological Society Board of Directors Meeting and Dinner. Windgate 71.

SATURDAY, MARCH 19

6:30-7:30 AM Missouri Dermatological Society Board of Directors Breakfast. Windgate 61.
7:00 AM Councilor District #10 Breakfast. Windgate 76.
7:30 AM **MSMA Auxiliary Public Affairs Breakfast.** Ballroom.
7:30 AM Missouri Ear, Nose and Throat Association Breakfast and Business Meeting. Drawing Room.
7:30 AM Missouri Society of Anesthesiologists Breakfast, Windgate 70.
7:30 AM-5:00 PM American Academy of Dermatology Postgraduate Course. Windgate 74.
7:45-11:00 AM Complimentary Coffee and Rolls. Windgate North.
8:00 AM Registration. Windgate Foyer.
8:30 AM-5:00 PM *Scientific Session*. Sponsored by the Missouri Society of Anesthesiologists. Windgate 72.
8:30 AM-12:00 NOON *Scientific Session*. Sponsored by the Missouri Ophthalmological Society, Inc. Windgate 62.
9:00 AM-10:30 PM *Scientific Session*. Sponsored by Physical Medicine and Rehabilitation. Windgate 61.
9:00 AM-10:30 PM *Scientific Session*. Windgate 71.
"The Primary Prevention of Coronary Artery Disease; A Concept Whose Time Has Arrived"
Speaker: Brent M. Parker, M.D., Columbia. *"Exercise and the Heart"*
Speaker: Richard H. Martin, M.D., Columbia.
Sponsored by the American Heart Association. Missouri Affiliate, Inc.
9:00 AM-10:30 PM *Scientific Session*. Windgate 75.
"Multi-Modality Therapy for Head and Neck Cancer"
"Management of Traumatic Nasal Deformities"
Speaker: Charles J. Krause, M.D., Professor and Chairman, Department of Head and Neck Surgery, University of Michigan School of Medicine, Ann Arbor.
Sponsored by the Missouri Ear, Nose and Throat Association.
9:00-11:00 AM *Scientific Session*. Sponsored by the Missouri Radiological Society. Windgate 60.
9:00 AM-12:00 NOON American Medical Women's Association Workshops. Windgate 63.
9:30 AM **Discuss the Issues With Your AMA Delegates.** Windgate 64.
10:30 AM **Intermission to View Exhibits.**
11:00 AM-12:30 PM Missouri Radiological Society Business Meeting. Windgate 60.
11:00 AM-12:30 PM *Scientific Session*. Sponsored by the Missouri Academy of Family Physicians. Windgate 71.
11:00 AM-12:30 PM *Scientific Session*. Sponsored by the Missouri State Surgical Society. Windgate 75.

11:00 AM-
12:30 PM *Scientific Session*. Windgate 61.
"Blind Nailing of the Femur"
Speaker: Marion Harper, M.D., Department of Orthopaedic Surgery, University of Missouri-Columbia School of Medicine.
"Surgical Treatment of Rheumatoid Arthritis of the Hand"
Speaker: Hugh S. Harris, M.D., Columbia.
Sponsored by the Missouri State Orthopaedic Association.

12:00 NOON American Medical Women's Association Luncheon. Drawing Room Terrace.

12:00 NOON Missouri State Neurosurgical Society Luncheon. Windgate 70.

12:00 NOON Physical Medicine and Rehabilitation Luncheon, Business and Board Meetings. Windgate 64.

12:00 NOON Missouri Ophthalmological Society, Inc. Luncheon. Windgate Center.

12:00 NOON Missouri Society of Anesthesiologists Luncheon and Business Meeting. Windgate South.

1:00 PM Missouri OB-GYN Society Luncheon and Business Meeting. Ballroom.

1:30-
4:00 PM Missouri Ophthalmological Society, Inc. Meeting. Windgate 62.

1:30 PM **Missouri Medical Political Action Committee.** Windgate 63.

2:00-
3:30 PM *Scientific Session*. Sponsored by the Missouri Academy of Family Physicians. Windgate 71.

5:00-
6:30 PM Missouri University Alumni Reception. Windgate 60-61.

5:00-
6:30 PM St. Louis University Alumni Reception. Windgate Center.

5:00-
6:30 PM Washington University Alumni Reception. Windgate 63-64.

6:30 PM MSMA Social Hour Preceding Annual Banquet. Parasol Foyer.

7:15 PM **MSMA Annual President's Banquet.** Windgate South.

SUNDAY, MARCH 20

7:30 AM **House of Delegates Breakfast and Final Session.** Windgate Center.

9:00 AM-
12:00 NOON Missouri Dermatological Society Clinical Rounds, University of Missouri Health Sciences Center, Columbia.

Doctor:

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Missouri State Medical Association

125th ANNUAL CONVENTION

March 17-20, 1983

Tan-Tar-A Resort, Osage Beach 65065 Lake of the Ozarks

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Preliminary Program — 58th Annual Convention

MSMA AUXILIARY

Tan-Tar-A Resort, Osage Beach, Mo. March 17-19, 1983

Thursday, March 17

9:00 AM-3:00 PM Auction Items Check-in: Windgate South.
10:00 AM-4:00 PM **Registration and Information.** Windgate Foyer.
10:00 AM Auxiliary Report to the MSMA House of Delegates.
Mrs. Samuel L. Gaston, President, MSMA Auxiliary
12:00 Noon Finance Committee Meeting. President's Suite.
3:30 PM Pre-Convention Board Meeting, Windgate 76.
5:30 PM-6:30 PM Reception honoring Mrs. Donald C. Sanders, MSMA Auxiliary President-Elect and Dr. Ronald A. Youmans, MSMA President-Elect.
6:30 PM Fifth Annual MSMF/AMA-ERF Benefit Auction, with Chuck-Wagon Buffet. Windgate South.

Friday, March 18

7:15-11:30 AM MSMA Complimentary Coffee and Rolls. Windgate North.
7:15 AM Past-Presidents' Breakfast. President's Suite.
8:00 AM-NOON Registration and Information. Windgate Foyer.
8:30 AM **General Assembly-Business Meeting.** Parasol Foyer.
Keynote Address: Mrs. John G. Bates, Cuthbert, Ga.
President-Elect of the AMA Auxiliary.
12:15 PM **Awards Luncheon.** Parasol Room.
2:00-4:30 PM Seminar (Subject to be announced): Parasol Foyer.
6:30 PM Dutch Treat Dinner. Meet in Tan-Tar-A Main Lobby.

Saturday, March 19

7:30 AM Public Affairs Breakfast. Ballroom.
8:00 AM-NOON **Registration and Information.** Windgate Foyer.
9:00 AM **General Assembly — Workshop.** Parasol Foyer.
Greetings from Southern Medical Association, Mrs. William D. Hughes, Montgomery, Al., President.
12:00 NOON **Installation Luncheon.** Parasol Room.
2:00 PM Post-Convention Board Meeting. Windgate 76.
6:30 PM Social Hour with the MSMA. Parasol Room.
7:30 PM MSMA Annual Banquet. Windgate South.

You Are Invited to Attend and Enjoy

The

MSMF/AMA-ERF BENEFIT AUCTION

Thursday, March 17 6:30 PM Tan-Tar-A Resort, Osage Beach

Here's your opportunity to contribute to the MSMF (MSMA student loan fund) and AMA-ERF and enjoy doing it. The MSMA Auxiliary is sponsoring the auction again and asks that you donate worthwhile items such as antiques, paintings, photographic art, arts and craft items and other items you consider appropriate. You'll enjoy the special Chuck-Wagon Buffet this year!

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Notes of interest from Here . . . . and There

More than 550 physicians and surgeons attained Fellowship status in the American College of Chest Physicians (AACP) during 1982. More than 200 of the initiates were formally inducted at the Convocation ceremonies held during the XIV World Congress on Diseases of the Chest and the AACP's 48th Annual Scientific Assembly. This combined international medical meeting was held recently in Toronto, Ontario, Canada. The 1982 New Fellows represent 49 states, eight Canadian provinces and 35 foreign countries. New fellows from the MSMA are Drs. **William G. Bowen**, St. Louis; **James S. Carter**, Columbia; **John A. Crouch**, Columbia; **Vincent P. Gurucharri**, Columbia, **Hamner Hannah, III**, Kansas City; **Malcolm E. Kendall**, Kansas City; **John P. Marbarger**, Clayton; **Everett M. Murphy, III**, Kansas City; and **Jack S. Sanders**, Jefferson City.

Dr. Hubert A. Ritter, St. Louis, will represent the American Medical Association as one of the five new commissioners appointed to the governing Board of the Joint Commission on Accreditation of Hospitals (JCAH) and began a three-year term on January 1. Dr. Ritter, an obstetrician-gynecologist, has been an elected member of the AMA Board of Trustees since 1976. He is a member of the medical staff of St. Louis University Hospital and St. Mary's Health Center.

Dr. Robert W. Gaines, Columbia, was recently elected president of the Missouri Easter Seal Society. An assistant professor of orthopaedic surgery, Dr. Gaines will succeed Mr. John L. Lyon as president.

Dr. J. Ronald Bopp, Joplin, was selected as chief of staff at Freeman Hospital at the annual medical/dental staff dinner recently. Other new officers are Drs. **T. K. Grebe**, president-elect, and **Frank I. Clark**, secretary-treasurer. **Dr. John W. Koehler** was honored by the staff and the hospital "for his outstanding contribution of more than 30 years of service to the Joplin medical community." **Drs. J. R. Kuhn, W. W. Hurst** and **Virgil E. Jeans** were awarded Physician Emeritus standings by the staff and hospital. **Dr. W. C. Dandridge, Jr.**, outgoing chief of staff, received a plaque of appreciation.

Dr. Eugene G. Wolanski, specialist in internal medicine, was installed as the 81st president of the Buchanan County Medical Society at its annual dinner and installation meeting on November 28, 1982. **Dr. Robert R. Stuber**, outgoing president, served as installing officer. Other officers installed were **Drs. Charles N. Mullican**, president-elect; **Theodore C. Kiekhaefer**, vice-president; **James A. Murphy**, secretary and **Edward H. Andres**, treasurer.

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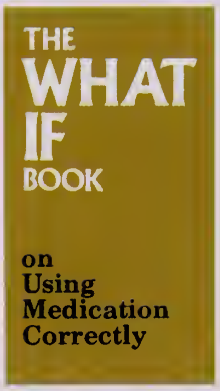
THE WHAT IF BOOK on Using Medication Correctly

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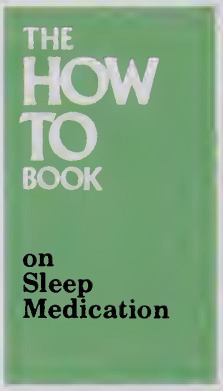
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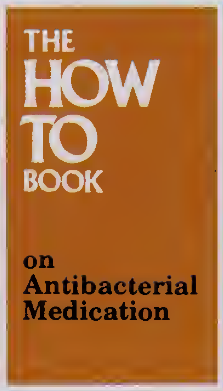
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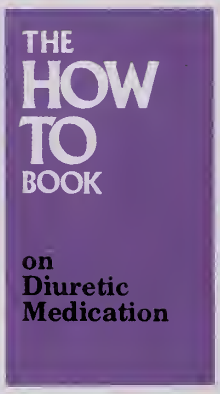
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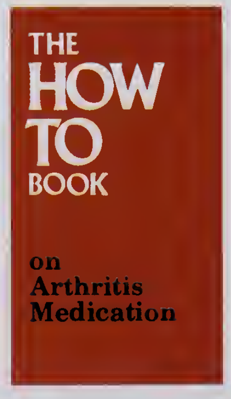
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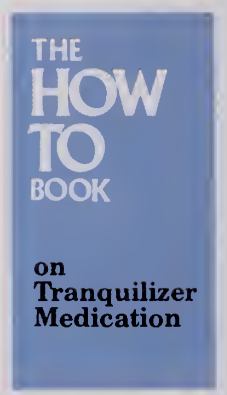
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MSMA Members Receive Physician's Recognition Award

Fifty-one MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the period of November, 1982.

The award is a voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in Missouri Medicine as they are received from the AMA.

John Aldridge, Lee's Summit
Ferenc Bankuti, Kansas City
William B. Barry, Kansas City
Rolfe A. Becker, Kansas City
Paul Adolph A. Brenner, Owensville
Juan Carden, St. Louis
James E. Carter, Kansas City
Clarence C. Cohrs, Moberly
James F. Conant, DeSoto
Burleigh E. DeTar, Joplin
Luke J. Dlabal, Independence
John J. Duggan, St. Louis
Gerald L. Early, Kansas City
Albert L. Folkner, Warrensburg
Jon W. Gaffney, St. Joseph
Theodore J. Glenn, Cape Girardeau
Henry V. Guhleman, Jefferson City
Belmont B. Gummels, St. Louis
Edward P. Gutek, Kansas City
Eugene T. Hansbrough, Poplar Bluff
Nejad K. J. Hassan, Columbia
Ernest D. Johnson, Cape Girardeau
Bruce N. Jones, St. Louis
William J. Ketcherside, Kansas City
Duncan A. Killen, Kansas City
Manoch Kuangparichat, Excelsior Springs
Siung O. Kwoun, Poplar Bluff
Robert G. Levitt, St. Louis
Robert R. Lyle, Versailles
Warren R. McCoy, Caruthersville
Wayne W. Meyer, Hazelwood
Carroll D. Monroe, Columbia
Donald S. Overend, Springfield
Robert R. Pavlu, Waverly
Hanford Phillips, St. Louis
Joe L. Rector, Kansas City
John L. Rhodes, Sikeston
Melvin Rubenstein, Glendale
Edward A. Samuelson, Kansas City
Kenneth F. Scott, Clinton
Winston Shen, St. Louis
John A. Sopuch, St. Louis
John C. Soucy, St. Charles
Joe E. Spurney, Kansas City
Paul E. Stohr, St. Louis
Byron M. Stuart, Boonville
Alexis G. Thomas, Kansas City
Samuel M. Watts, Aurora
Robert S. Weinhaus, St. Louis
Dean F. Werner, North Kansas City
Charles E. Workman, Kansas City

Continuing Education Coming Events

University of Missouri-Columbia School of Medicine Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
***Contact:* William D. Bradshaw, M.D., Director**

Feb. 14-16	Third National Conference on Continuous Ambulatory Peritoneal Dialysis (Kansas City)
Mar. 21, 22	29th Annual Urology Seminar (Kansas City)
Apr. 8	Preceptor's Day (Columbia)
Apr. 8-10	Group Relations Conference (Columbia)
Apr. 9-10	Sixth Annual Family Practice Update Session (Columbia)
Apr. 20, 21	Sixth Annual Primary Pediatrics for the Primary Physician (Columbia)
Apr. 29, 30	Second Annual Missouri Clinical Conference on Arthritis (Columbia)
May 6-8	Sixth Annual Missouri Cardiovascular Conference (Tan-Tar-A, Osage Beach)
May 18-20	Inflammatory Bowel Disease (Columbia)
Aug. 6, 7	Sixth Annual Soft Tissue Surgery Workshop (St. Louis)
Oct. 20-22	Fifth Annual Advances in Rheumatology Symposium (Columbia)
Nov. 4, 5	26th Annual Physicians Weekend (Columbia)

Cardinal Glennon Memorial Hospital for Children
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(314) 577-5000

June 15-17	Updating Skills and Knowledge in Neonatology Combined With A Fun Family Vacation in the Ozarks (For Pediatricians and Family Practice Physicians) (Tan-Tar-A, Osage Beach)

St John's Mercy Medical Center
615 S. New Ballas Rd., St. Louis 63141
(314) 569-6000
***Contact:* Felix E. F. Larocca, M.D.**

April 16	"The First BASH Annual Conference on Eating Disorders"

> *The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in* Missouri Medicine. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

St. Louis University Medical Center
Dept. of Orthopedic Surgery
1325 S. Grand Blvd.

Oct. 29-30	Spinal Disorders in Children

The Edward Mallinckrodt Institute of Radiology — Washington University School of Medicine
510 S. Kingshighway, St. Louis 63110
(314) 367-2131
***Contact:* Ronald G. Evens, M.D., Director**

Feb. 14	City-Wide Radiology Conference — CT Experience from an English Cancer Center
Mar. 14	City-Wide Radiology Conference — New Approaches to Measuring Cardiac Function in Nuclear Radiology
Apr. 11	Leroy Sante Lecture (St. Louis University)
May 9	City-Wide Radiology Conference — Pediatric Radiology
May 6-14	Fifth Annual Current Concepts in Musculoskeletal Radiology and Orthopedics (With Inter-American Congress of Radiology) (Acapulco)

The Ed Bixby Institute Research Medical Center
2316 E. Meyer Blvd., Kansas City 64132
(816) 276-4306
***Contact:* Jane L. Jackson, Director of Seminars**

Feb. 2	Infectious Diseases and Antibiotics
Apr. 6	Acute and Chronic Pain Management
June 1	Pulmonary Disease: Critical Care
Aug. 3	New Radiology Techniques

American College of Physicians
4200 Pine St., Philadelphia, PA 19104
(215) 243-1200
***Contact:* Jane A. Ayers**

Feb. 25-26	Regional CME Meetings (Alameda Plaza Hotel, Kansas City)

Mercy-Baptist Eye Foundation
615 S. New Ballas Rd., St. Louis 63141
(314) 432-5478
***Contact:* Mrs. Judi Kramer, Coordinator**

May 15	16th Eye Seminar — Laser Surgery for Cataract, Glaucoma and Retina

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3873
***Contact:* Loretta Giacoletto, Office of CME**

Feb. 5-11	1983 Care of the Aging Patient (Cancun, Mexico)

Menorah Medical Center
4949 Rockhill Rd., Kansas City 64110
(816) 276-8000
***Contact:* Erich W. Pollak, M.D., Director of Surgical Education, for the following:**

4:00 PM — Basic Sciences to Surgery Seminar
(Monday through Friday)
3:00 PM — Surgical Rounds
(Every Wednesday and Friday)
4:00 PM — Surgical Techniques Seminar
(Every second and fourth Wednesday)
4:45 PM — Morbidity and Mortality Conference
(Every fourth Wednesday)
8:00 AM — Morbidity and Mortality Conference
(Every second Saturday)
7:00 AM — Surgical Grand Rounds
(First and third Thursdays)

***Contact:* David S. Sneid, M.D., Director of Medical Education, for the following:**

9:00 AM — Medicine Staff Conference
(First, third and fourth Tuesdays)

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
***Contact:* Alta Bingham**

Feb. 11-12	The Long Weekend: Update in Infectious Disease, Orthopedics and Pharmacology (Crown Center Hotel)
Feb. 12-19	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Ixtapa, Mexico)
March 10-12	Perspectives in Medical Care (Hyatt Regency Hotel)
March 19-26	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Snowmass, Colo.)
April 21-23	Update in Obstetrics and Gynecology (Hyatt Regency Hotel)
May 12-13	Surgical Problems — The Old and the New (Alameda Plaza Hotel)
May 20-21	The Long Weekend (Alameda Plaza Hotel)
June 4	Physical Fitness (Crown Center Hotel)

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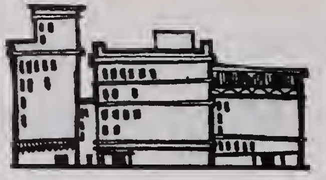

NEWS
From the Medical Schools

UNIVERSITY OF MISSOURI-KANSAS CITY

Several representatives of the School of Medicine traveled to Washington, D. C. in November for the annual AAMC (Association of American Medical Colleges) meeting. *Russell G. Jones, Jr.*, director of administration, was appointed member-at-large for the Midwest Region of the Group on Business Affairs. *Dr. James J. Mongan*, executive director of Truman Medical Center, the medical school's primary adult teaching hospital, was elected to a three-year term as a representative of the Council of Teaching Hospitals. *Dr. Willie McLemore*, associate professor and senior docent, was elected vice-chairman of the central region of the National Association of Minority Medical Educators.

Truman Medical Center (TMC) celebrated its 20th anniversary on December 2 with the Third Annual Honorary Trustees Reception sponsored by the TMC Charitable Foundation. *Nathan Stark* and *Homer Wadsworth* spoke at the reception at the Crown Center Hotel in Kansas City. Mr. Stark was president of the board that incorporated Truman Medical Center, and Mr. Wadsworth was a consultant to the board. Both men figured prominently in establishing both the hospital and the School of Medicine. Mr. Stark, former undersecretary in the U. S. Department of Health and Human Services, is senior vice-chancellor for health services and president of the University Health Center of the University of Pittsburgh and Mr. Wadsworth is director of the Cleveland Foundation.

Charles C. Lobeck, Jr., M.D., dean of the University of Missouri-Columbia School of Medicine, was the UMKC School of Medicine's Dorothy Lee Ross Lecturer on December 16. Dr. Lobeck spoke on "Syndromes Without Causes, Reye's and Others" at Children's Mercy Hospital, the primary children's teaching hospital for the University.

A videotape on "Acute Gastrointestinal Bleeding" produced by the medical school's Office of Educational Resources earned the Award of Excellence from the Kansas City chapter of the International Television Association. The videotape was produced for the American Medical Association's Video Clinic series.

Dr. Joel Covinsky, associate professor of medicine and pharmacy, has been designated president-elect of the American College of Clinical Pharmacy. Dr. Covinsky, who received his Pharm.D. degree from the University of Kentucky, joined the medical school in 1972 as an assistant professor of clinical pharmacy. He serves as director of the clinical pharmacology programs and executive director of the Metabolic Support Service at Truman Medical Center.

ST. LOUIS UNIVERSITY

The opening of the Division of Behavioral Medicine in the Department of Psychiatry at the Medical Center was marked by the appearances of two eminent psychiatrists, *Eugene Brody*, M.D., and *William Dement*, M.D., Ph.D.

The Division of Behavioral Medicine consists of six components, all with a behavioral medicine emphasis in their approach. The components are the Behavioral Treatment Unit, Sleep Disorders Center, Neuropsychology Laboratory, Pain Management Program, Biobehavioral Laboratory and the Agoraphobia Treatment Program.

Dr. Brody, professor of psychiatry and human behavior, University of Maryland School of Medicine, spoke on "Behavioral Medicine and Self-Determination." He is the president of the World Federation for Mental Health, past-president for the Association of Behavioral Sciences and Medical Education, consultant to the World Health Organization and editor-in chief of the *Journal of Nervous and Mental Disease*. He is noted for his work on the interrelationship of psychoanalysis, psychiatry and anthropology.

Dr. Dement spoke on "Sleep Behavior: From the Lucid Dream to the Single Cell." Dr. Dement has been recognized for developing the modern field of sleep research. Currently, he is chairman of the United Surgeon General's Joint Coordination Council's "Project Sleep: National Program on Insomnia and Sleep Disorders."

Michael Cole, Ph.D., assistant professor of biochemistry, has revealed, along with other researchers throughout the country working independently, the results of research related to movement of cancer genes and tumor growth.

According to Dr. Cole's work, and parallel research conducted at Harvard Medical School and the National Cancer Institute in Bethesda, Md., breakage of chromosomes activates cancer genes in mouse tumor cells. He and other researchers have already identified the presence of different genes that are present in all human cells and that may be triggers for cancer.

The researchers' work, which has been developing during the past four to five years and has escalated during the past several months, is considered a breakthrough in understanding the molecular basis for cancer. To date, researchers have identified approximately 15 genes that are linked with the formation of specific cancers.

The most important aspect of Dr. Cole's work is that when this cancer gene is moved, it is altered and appears to trigger the growth of tumors.

In the mouse tumor cell, Dr. Cole has discovered that a piece of chromosome 15 that carries the "myc" cancer gene is moved and reattached to a piece of chromosome 12, an antibody or disease-fighting gene. His findings will be published in the December issue of *Cell Magazine*.

UNIVERSITY OF MISSOURI-COLUMBIA

A team of cardiologists and surgeons at the University of Missouri-Columbia Hospital and Clinics has successfully implanted in the heart of a 63-year-old woman an electronic device designed to monitor and correct severe, irregular heartbeat.

The apparatus was implanted on November 11 by School of Medicine faculty members *Dr. Hugh E. Stephenson Jr.*, professor of surgery; *Dr. Jack J. Curtis*, chief of cardiovascular surgery; and *Dr. Greg C. Flaker*, assistant professor of medicine.

The UMC Hospital and Clinics is one of only two medical centers in the Midwest actively participating in a nationwide pilot study approved by the Food and Drug Administration to establish the effectiveness of the device, known as the implantable automatic defibrillator.

The defibrillator eventually may save the lives of potential victims of sudden cardiac death. Dr. Stephenson and Dr. Flaker estimate that sudden cardiac death claims 300,000-350,000 victims a year in the United States. Most result from malignant arrhythmia, or severe irregular heartbeat, usually in association with coronary artery disease.

"The ability to provide the 'at risk' patient with an automatic means of preventing sudden, unexpected death represents a major breakthrough," said *Dr. Donald Silver*, chairman of the medical school's department of surgery.

Dr. Gabrielle A. Carlson, associate professor of psychiatry, presented a paper on "Suicidal Behavior and Depression in Children and Adolescents" at the annual meeting of the American Academy of Child Psychiatry held in Washington, D. C. Dr. Carlson also presented a paper on "The Beck Depression Inventory in Mentally Retarded Adults."

Dr. A. E. Daniel, assistant professor of psychiatry, presented a paper on "Female Homicidal Offenders: A Descriptive Study" at the 13th annual meeting of the American Academy of Psychiatry and the Law in New York City. Dr. Daniel also presented a paper on "Mentally Retarded Offenders: Issues in Forensic Psychiatry" at a Forensic Psychiatry Conference sponsored by the Missouri Department of Mental Health and the Missouri Institute of Psychiatry. The conference was held in St. Louis.

Dr. Armando R. Favazza, professor of psychiatry, has been elected secretary-treasurer of the Society for the Study of Culture and Psychiatry. The Department of Psychiatry at the School of Medicine will be the host for the organization's 1984 meeting at the Lake of the Ozarks.

Dr. Charles W. Gehrke, professor of biochemistry, has been invited by the American Chemical Society of International Activities to present a scientific paper in Manila, Philippines. Dr. Gehrke will speak on "Chromatographic and Automated Chemical Analysis in Agricultural Research" at the conference on "Chemistry and World Food Supplies: The New Frontiers." He is one of only three Americans invited to speak at the conference that is sponsored by the International Union of Pure and Applied Chemistry. He is president-elect of the Association of Official Analytical Chemists of the United States.

Dr. Walid O. Shekim, associate professor of psychiatry, presented a paper on "Factors Affecting MHPG Excretion in Children" at the annual meeting of the American Academy of Child Psychiatry in Washington, D. C.

Dr. Joseph T. Walls, assistant professor of cardiothoracic surgery, has received a three-year, $160,000 grant from the Veterans Administration Merit Review Board. The title of Dr. Walls' study is "Protection of Hypertrophied Myocardium During Elective Cardiac Arrest."

New Members

Howard A. Aks, M.D., 5205 Juniper Dr., Shawnee Mission, Kan. 66205, has become a member of Jackson County Medical Society. Dr. Aks is a native of St. Louis, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1982. He specializes in internal medicine.

Henry M. Altepeter, M.D., 621 S. New Ballas Rd., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Altepeter is a native of St. Louis, received his preliminary education at Johns Hopkins University and his M.D. degree at St. Louis University in 1977. He specializes in general surgery.

Samuel A. Amill, M.D., 12026 Conway Rd., St. Louis 63131, has become a member of St. Louis Metropolitan Medical Society. Dr. Amill is a native of Puerto Rico, received his preliminary education at the University of Puerto Rico and his M.D. degree at the University of Puerto Rico in 1978. He specializes in internal medicine and pulmonary diseases.

Charles H. Andrus, M.D., 7017 Nashville, St. Louis 63117, has become a member of St. Louis Metropolitan Medical Society. Dr. Andrus is a native of San Francisco, Calif., received his preliminary education at the University of San Francisco and his M.D. degree at St. Louis University in 1979. He specializes in general surgery.

Robert J. Auffenberg, M.D., 27 Topton Way, St. Louis 63105, has become a member of St. Louis Metropolitan Medical Society. Dr. Auffenberg is a native of St. Louis, received his preliminary education at Colorado State University and his M.D. degree at Washington University in 1978. He specializes in radiology.

Janice H. Axelrod, M.D., 7944 Stanford, University City 63130, has become a member of St. Louis Metropolitan Medical Society. Dr. Axelrod is a native of New York, N. Y., received her preliminary education at Queens College and her M.D. degree at Albert Einstein College in 1973. She specializes in obstetrics and gynecology and gynecologic oncology.

Vilray P. Blair, III, M.D., 4960 Audubon Ave., St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Blair is a native of St. Louis, received his preliminary education at Harvard University and his M.D. degree at Duke University in 1977. He specializes in orthopedic surgery.

Mark C. Blaufuss, M.D., 7777-A Charing Sq., St. Louis 63119, has become a member of St. Louis Metropolitan Medical Society. Dr. Blaufuss is a native of Sumner, Iowa, received his preliminary education at the University of North Dakota and his M.D. degree at Washington University in 1978. He specializes in pediatrics.

Mike J. Brown, M.D., 1549 Lexington, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Brown is a native of Memphis, Tenn., received his preliminary education at Memphis State University and his M.D. degree at the University of Tennessee in 1966. He specializes in diagnostic radiology.

Leslie M. Brunt, M.D., 6218 Northwood #12, St. Louis 63105, has become a member of St. Louis Metropolitan Medical Society. Dr. Brunt is a native of Enterprise, Ala., received his preliminary education at the University of Mississippi and his M.D. degree at Johns Hopkins University in 1980. He specializes in general surgery.

Lawrence A. Callaway, M.D., Laboratory-Trinity Lutheran Hospital, 31st & Wyandotte, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Callaway is a native of Lavanna, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1967. He specializes in pathology.

Ronelle L. Campbell, D.O., 7219 E. 87th Terr. #103, Kansas City 64138, has become a member of Jackson County Medical Society. Dr. Campbell is a native of Okmulgee, Okla., received her preliminary education at Oklahoma State University and her D.O. degree at Oklahoma College of Osteopathic Medicine in 1980. She specializes in internal medicine.

Frank J. Cervenka, M.D., 825 Euclid, Kansas City 64124, has become a member of Jackson County Medical Society. Dr. Cervenka is a native of Washington, D.C., received his preliminary education at the University of Washington and his M.D. degree at the University of Washington in 1979. He specializes in internal medicine.

Wui Chien, M.D., 5705 McGee, Kansas City 64113, has become a member of Jackson County Medical Society. Dr. Chien is a native of Taiwan, received his preliminary education at the University of Missouri-Kansas City and his M.D. degree at the University of Missouri-Kansas City in 1982. He specializes in internal medicine.

Paul R. Cook, M.D., M583A, 807 Stadium Rd., Columbia 65201, has become a member of Boone County Medical Society. Dr. Cook is a native of Hanford, Calif., received his preliminary education at the University of Oklahoma and his M.D. degree at the University of Oklahoma in 1976. He specializes in otolaryngology and head and neck, facial plastic and reconstructive surgery.

Peter G. Danis, III, M.D., 1114 A Ralph Terr., St. Louis 63117, has become a member of St. Louis Metropolitan Medical Society. Dr. Danis is a native of Orlando, Fla., received his preliminary education at Georgetown University and his M.D. degree at St. Louis University in 1981. He specializes in family practice.

Ray S. Davis, M.D., 10327 Tuxford Dr., #2, St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Davis is a native of Louisville, Ky., received his preliminary education at the University of Louisville and his M.D. degree at the University of Louisville in 1978. He specializes in pediatrics and allergy and immunology.

Nestor G. Dimayuga, M.D., Mercy Hospital-Tri County, Mansfield 65704, has become a member of South Central Counties Medical Society. Dr. Dimayuga is a native of the Philippines, received his preliminary education at the University of the Philippines and his M.D. degree at the University of the Philippines in 1966. He specializes in family practice.

Tulay Dincer, M.D., 1693 Avignon Ct., St. Louis 63122, has become a member of St. Louis Metropolitan Medical Society. Dr. Dincer is a native of Turkey, received her preliminary education at Hacettepe University and her M.D. degree at Hacettepe University in 1977. She specializes in pediatrics.

Richard S. Downey, M.D., 9016 Lawn Ave., Brentwood 63144, has become a member of St. Louis Metropolitan Medical Society. Dr. Downey is a native of New York City, N. Y., received his preliminary education at Columbia University and his M.D. degree at Columbia University in 1980. He specializes in general surgery.

Kathryn A. Ellerbeck, M.D., 5153 Nall, Shawnee Mission, Kan. 66205, has become a member of Jackson County Medical Society. Dr. Ellerbeck is a native of Ft. Belvoir, Va., received her preliminary education at the University of Missouri-Kansas City and her M.D. degree at the University of Missouri-Kansas City in 1982. She specializes in internal medicine and pediatrics.

Robert J. Fles, Jr., M.D., 4918 Juniper, Shawnee Mission, Kan. 66205, has become a member of Jackson County Medical Society. Dr. Fles is a native of Louisville, Ky., received his preliminary education at Hope College and his M.D. degree at the University of Louisville in 1979. He specializes in diagnostic radiology.

Kirk E. Flury, M.D., 120 W. Glenwood La., Kirkwood 63122, has become a member of St. Louis Metropolitan Medical Society. Dr. Flury is a native of Kansas City, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1971. He specializes in internal medicine and pulmonary diseases.

Robert A. Frank, D.O., 3615 Gillham #1, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Frank is a native of Columbus, Ohio, received his preliminary

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education at the University of Florida and his D.O. degree at Texas College of Osteopathic Medicine in 1981. He specializes in internal medicine.

Todd J. Garvin, M.D., 7023 Northmoor, University City 63105, has become a member of St. Louis Metropolitan Medical Society. Dr. Garvin is a native of Long Beach, Calif., received his preliminary education at Harvard College and his M.D. degree at Yale University in 1980. He specializes in general surgery.

James B. Grimes, M.D., 18 S. Kingshighway, 15L, St. Louis 63108, has become a member of St. Louis Metropolitan Medical Society. Dr. Grimes is a native of Kansas City, received his preliminary education at the University of Kansas and his M.D. degree at Cornell University in 1979. He specializes in orthopedic surgery.

Robert E. Gross, M.D., Cabool Clinic, Cabool 65689, has become a member of South Central Counties Medical Society. Dr. Gross is a native of Topeka, Kan. received his preliminary education at Geneva College and his M.D. degree at Jefferson Medical College in 1958. He specializes in general practice.

Raymond Grote, M.D., 3302 McIntosh Circle, Joplin 64801, has become a member of Jasper County Medical Society. Dr. Grote is a native of Burton, Tex., received his preliminary education at Texas Lutheran College and his M.D. degree at the University of Texas in 1975. He specializes in pediatrics.

Timothy J. Hamel, M.D., 649 S. New Ballas Rd., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Hamel is a native of Iron Mountain, Mich., received his preliminary education at the University of Wisconsin and his M.D. degree at the University of Wisconsin in 1980. He specializes in family practice.

Rashid S. Hamid, M.D., 107 E. Vine, Brunswick 65236, has become a member of Saline County Medical Society. Dr. Hamid is a native of Afghanistan, received his preliminary education at Kabul University and his M.D. degree at Kabul University in 1961. He specializes in family practice.

Frans S. Handoyo, M.D., 15025 Lake Clay Dr., St. Louis 63017, has become a member of St. Louis Metropolitan Medical Society. Dr. Hand-

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oyo is a native of Indonesia, received his preliminary education at Gajah Mada University and his M.D. degree at Gajah Mada University in 1972. He specializes in internal medicine and gastroenterology.

Bruce A. Harris, M.D., 7130 Eby Dr., #107, Shawnee Mission, Kan. 66204, has become a member of Jackson County Medical Society. Dr. Harris is a native of Chicago, Ill., received his preliminary education at Northern Illinois University and his M.D. degree at the University of Illinois in 1982. He specializes in internal medicine and emergency medicine.

Lee J. Helman, M.D., 1210 Oxford Hill, St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Helman is a native of Washington, D. C., received his preliminary education at George Washington University and his M.D. degree at the University of Maryland in 1980. He specializes in internal medicine and hematology/oncology.

Bruce E. Henson, M.D., Suite T101, 6420 Prospect, Kansas City 64132, has become a member of Jackson County Medical Society. Dr. Henson is a native of Bay City, Mich., received his preliminary education at Kalamazoo College and his M.D. degree at the University of Michigan in 1977. He specializes in internal medicine.

James H. Hilgard, M.D., 1105 Ralph Terr., St. Louis 63117, has become a member of St. Louis Metropolitan Medical Society. Dr. Hilgard is a native of East St. Louis, Ill., received his preliminary education at the University of Michigan and his M.D. degree at St. Louis University in 1980. He specializes in internal medicine.

Mark T. Houston, 618 Pamela La., Kirkwood 63122, has become a member of St. Louis Metropolitan Medical Society. Dr. Houston is a native of St. Louis, received his preliminary education at Duke University and his M.D. degree at Creighton University in 1981. He specializes in family practice.

Carol C. Kavanaugh, D.O., 3615 Gillham Rd., #1, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Kavanaugh is a native of Oklahoma City, Okla., received her preliminary education at the University of Texas and her D.O. degree at Texas College of Osteopathic Medicine in 1981. She specializes in internal medicine.

(Continued on page 49)

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Theodore Koreckij, M.D., 124 Mississippi, Crystal City 63019, has become a member of Jefferson County Medical Society. Dr. Koreckij is a native of Munich, Germany, received his preliminary education at Princeton University and his M.D. degree at the University of Connecticut in 1976. He specializes in orthopedic surgery.

Jeffrey B. Kramer, M.D., 18 S. Kingshighway #12K, St. Louis 63108, has become a member of St. Louis Metropolitan Medical Society. Dr. Kramer is a native of Kansas City, received his preliminary education at Haverford College and his M.D. degree at Washington University in 1980. He specializes in general surgery.

John L. Krieger, M.D., 28 Berry Rd. Park, St. Louis 63122, has become a member of St. Louis Metropolitan Medical Society. Dr. Krieger is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1949. He specializes in anesthesiology.

Steven D. Langguth, M.D., 3045 B. S. Delaward, Springfield 65804, has become a member of Greene County Medical Society. Dr. Langguth is a native of Dayton, Ohio, received his preliminary education at Drury College and his M.D. degree at Washington University in 1979. He specializes in family practice.

Horacio G. Lardo, M.D., 1325 S. Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Lardo is a native of Buenos Aires, Argentina, received his preliminary education at National College and his M.D. degree at the University of Buenos Aires in 1974. He specializes in anesthesiology.

Benjamin Yun Ping Lee, M.D., 7120 Washington Ave., St. Louis 63130, has become a member of St. Louis Metropolitan Medical Society. Dr. Lee is a native of Hong Kong, received his preliminary education at Purdue University and his M.D. degree at the University of the East in 1980. He specializes in ophthalmology.

Michelle D. Leon, M.D., 25 E. 49th, #2S, Kansas City 64112, has become a member of Jackson County Medical Society. Dr. Leon is a native of Port Jervis, N. Y., received her preliminary education at Syracuse University and her M.D. degree at the State University of New York in 1982. She specializes in emergency medicine.

Barry Light, M.D., 500 S. Kingshighway, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Light is a native of St. Louis, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in pediatrics.

Michael C. Mahoney, D.O., 626 E. Battlefield, Springfield 65807, has become a member of Greene County Medical Society. Dr. Mahoney is a native of Huron, S. D., received his preliminary education at South Dakota State University and his D.O. degree at Kirksville College of Osteopathic Medicine in 1979. He specializes in general practice.

Ann McBride, M.D., 3302 McIntosh Circle, Joplin 64801, has become a member of Jasper County Medical Society. Dr. McBride is a native of New Jersey, received her preliminary education at the University of Kansas and her M.D. degree at the University of Kansas in 1976. She specializes in internal medicine.

Daniel C. McKinney, M.D., 1900 S. National, Suite 3200, Springfield 65804, has become a member of Greene County Medical Society. Dr. McKinney is a native of Paragould, Ark., received his preliminary education at Ouachita University and his M.D. degree at the University of Arkansas in 1972. He specializes in pediatrics.

Paul F. Mele, M.D., 5613 N. Potter, Kansas City 64119, has become a member of Jackson County Medical Society. Dr. Mele is a native of Oceanside, N. Y., received his preliminary education at Tulane University and his M.D. degree at Tulane University in 1982. He specializes in emergency medicine.

Anne Padron, M.D., 9310 Bales #301, Kansas City 64132, has become a member of Jackson County Medical Society. Dr. Padron is a native of Springfield, received her preliminary education at the University of Missouri-Kansas City and her M.D. degree at the University of Missouri-Kansas City in 1982. She specializes in internal medicine.

Judy L. Panek, M.D., 3803 E. 107th, Kansas City 64137, has become a member of Jackson County Medical Society. Dr. Panek is a native of Kansas City, received her preliminary education at Creighton University and her M.D. degree at Creighton University in 1982. She specializes in internal medicine.

Anthony C. Pearson, M.D., 7781 A-2 Ravensridge, St. Louis 63119, has become a member of St. Louis Metropolitan Medical Society. Dr. Pearson is a native of N. Wales, United Kingdom, received his preliminary education at the University of Oklahoma and his M.D. degree at St. Louis University in 1980. He specializes in internal medicine.

Edward A. Porter, D.O., 412 Center St., Hannibal 63401, has become a member of Marion-Ralls-Shelby County Medical Society. Dr. Porter is a native of Shelbina, received his preliminary education at Hannibal LaGrange College and his D.O. degree at Kirksville College of Osteopathic Medicine in 1935. He is in general practice.

David C. Prickett, Jr., M.D., 2800 Hospital Dr., Kansas City 64116, has become a member of Clay-Platte County Medical Society. Dr. Prickett is a native of Fairmont, W. Va., received his preliminary education at the University of Texas and his M.D. degree at the University of Louisville in 1978. He specializes in emergency medicine.

Ray E. Ramirez, M.D., 3715 Washington, #2, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Ramirez is a native of Chicago, Ill., received his preliminary education at the University of Missouri-Kansas City and his M.D. degree at the University of Missouri-Kansas City in 1982. He specializes in internal medicine.

Robert B. Reynolds, Sr., M.D., 522 N. New Ballas Rd., Suite 382, St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Reynolds is a native of China, received his preliminary education at Carleton College and his M.D. degree at Harvard University in 1947. He specializes in psychiatry and adolescent psychology.

Robert M. Saitz, M.D., 936 Lordshill, St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Saitz is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at Washington University in 1981. He specializes in internal medicine.

Michael R. Stapleton, M.D., Mercy Hospital Clinic, Mansfield 65704, has become a member of South Central Counties Medical Society. Dr. Stapleton is a native of Miami, Fla., received his preliminary education at the University of Santa Clara and his M.D. degree at Creighton University in 1960. He specializes in orthopaedic surgery.

Donna G. Strickler, M.D., 6865 W. Fox Ridge Dr., #345, Shawnee Mission, Kan. 66202, has become a member of Jackson County Medical Society. Dr. Strickler is a native of Lakeport, Calif., received her preliminary education at the University of California and her M.D. degree at the Medical College of Wisconsin in 1982. She specializes in internal medicine.

Melicien A. Tettambel, D.O., 530 Des Peres, Des Peres 63131, has become a member of St. Louis Metropolitan Medical Soceity. Dr. Tettambel is a native of St. Louis, received her preliminary education at Quincy College and her D.O. degree at Kirksville College of Osteopathic Medicine in 1978. She specializes in obstetrics and gynecology.

Noel Totti, III, M.D., 1345 Glenmeade Dr., Maryland Heights 63043, has become a member of St. Louis Metropolitan Medical Society. Dr. Totti is a native of San Juan, Puerto Rico, received his preliminary education at Duke Hospital and his M.D. degree at the University of Puerto Rico in 1976. He specializes in internal medicine and pulmonary diseases.

Elbert P. Trulock, M.D., 223 E. Adams Ave., Kirkwood 63122, has become a member of St. Louis Metropolitan Medical Society. Dr. Trulock is a native of Bainbridge, Ga., received his preliminary education at Emory University and his M.D. degree at Emory University in 1978. He specializes in internal medicine and pulmonary diseases.

Rebecca L. Vanzant, M.D., 10408 E. 42nd, Kansas City 64133, has become a member of Jackson County Medical Society. Dr. Vanzant is a native of Memphis, Tenn., received her preliminary education at Mississippi University for Women and her M.D. degree at the University of Mississippi in 1982. She specializes in internal medicine.

David M. Van Hook, M.D., U. S. General Leonard Wood Army Community Hospital, Fort Leonard Wood 65473, has become a member of Mid-Missouri Medical Society. Dr. Van Hook is a native of Springfield, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1966. He specializes in diagnostic radiology.

Richard L. Wahl, M.D., 510 S. Kingshighway, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Wahl is a native of Waverly, Ia., received his preliminary education at Wartburg College and his M.D. degree at Washington University in 1978. He specializes in diagnostic radiology.

Barry I. Witten, M.D., Mercy Doctors Building, 631 S. New Ballas Rd., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Witten is a native of South Africa, received his preliminary education at the University of Pretoria and his M.D. degree at the University of Pretoria in 1975. He specializes on obstetrics and gynecology and reproductive endocrinology.

James A. Wolf, Jr., M.D., 1128 Sanford, St. Louis 63139, has become a member of St. Louis Metropolitan Medical Society. Dr. Wolf is a native of Ft. Worth, Tex., received his preliminary education at the University of Texas and his M.D. degree at Baylor College in 1980. He specializes in general surgery.

Thomas K. Zink, M.D., 5314-C Knoll Creek, Hazelwood 63042, has become a member of St. Louis Metropolitan Medical Society. Dr. Zink is a native of Kansas City, received his preliminary education at the University of Missouri-Kansas City and his M.D. degree at the University of Missouri-Kansas City in 1980. He specializes in pathology.

Veronica D. Zostos, M.D., 10010 Kennerly Rd., St. Louis 63128, has become a member of St. Louis Metropolitan Medical Society. Dr. Zostos is a native of St. Louis, received her preliminary education at Washington University and her M.D. degree at Washington University in 1976. She specializes in anatomic pathology and clinical pathology.

New Student Members

St. Louis University

Caroline A. Werner

University of Missouri-Columbia

Stephen P. Jarvis
Jeffrey W. McFarland
John J. O'Brien
Eric G. Sollars

University of Missouri-Kansas City

Nancy B. Eisele

In Memoriam

Samuel B. Grant, M.D., 96 Aberdeen Pl., Clayton 63105; graduate of Washington University, 1920; member of St. Louis Metropolitan Medical Society; aged 85; died Nov. 2, 1982.

Theodore L. Waddle, M.D., 25 S. Locust, Dexter 63841; graduate of Louisiana State University, 1935; member of SEMO County Medical Society; aged 79; died Nov. 3, 1982.

Charles E. Gilliland, M.D., 817 W. 4th, Cameron 64429; graduate of Kansas University, 1911; member of Grand River Medical Society; aged 94; died Nov. 9, 1982.

Ralph K. Earp, M.D., R.R. 2, Mexico 65265; graduate of Washington University, 1936; member of St. Louis Metropolitan Medical Society; aged 73; died Nov. 20, 1982.

George Forman, M.D., 2412 Ashland, St. Joseph 64506; graduate of University of Kansas, 1924; member of Buchanan County Medical Society; aged 84; died Nov. 24, 1982.

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in Brief

A summary of AMA, medical & health news

American Medical Association/535 North Dearborn Street/Chicago, Illinois 60610/Phone (312) 527-1500/TWX 910-221-0300

A 1983 FISCAL year budget based on expected revenue of $102,871,000 and expected operating expenses of $98,223,000 was approved by the AMA Board of Trustees. These figures compare with fiscal 1982 projections of $92,908,000 in revenues and $82,620,000 in operating revenues. Revenue is expected to come largely from membership dues, $48,403,000, and advertising, $21.9 million. Membership figures are based on an estimated 214,700 dues-paying members. The advertising revenue projection is up from $20.5 million in the 1982 fiscal year. Other anticipated revenues are interest and investment income, $11.4 million; accreditation and educational programs, $4.8 million; list house royalties, $4.3 million; book and pamphlet sales, $3.7 million; subscriptions, $3.2 million; and other, $4.8 million.

MORE THAN 60% of the AMA's expenditures in the next fiscal year will go toward fulfilling two of the Association's major missions. The budget calls for spending $30.2 million (30.8% of the budget) for representation of the profession, and $28.9 million (29.5%) for the providing of scientific information. Other allocations by mission are $8.2 million for the provision of socioeconomic information; $4.3 million for provision of data on the profession; $8.4 million for maintaining educational standards; $6.3 million for maintaining organizational and Federation strength; $10.5 million for AMA organizational activities. An additional $1.1 million is earmarked for the contingency fund.

THE AMA'S FISCAL 1983 budget calls for the commitment of $11.6 million to increase the emphasis on existing programs and to develop new ones. Included are projected spending increases on publications, $4.6 million (to be offset by increased advertising revenue); the Patient Medication Instruction Program, $2 million; real estate, $1 million; drug policy and information, $1 million; personal and public health policy, $828,000; development of a Health Policy Agenda, $598,000; and various other areas, $1.5 million.

TWENTY-SIX STATES will have additional delegates in the AMA House next year, according to preliminary figures. Several other state associations are close to membership gains that would result in additional delegates before the final allocation on December 31. As of October 18, the number of new delegates was 36. California, Maryland, and Pennsylvania increased their delegate count by three each. Florida, Louisiana, Michigan, and Texas gained two each. Increasing their delegate counts by one were Connecticut, District of Columbia, Georgia, Hawaii, Illinois, Kansas, Kentucky, Massachusetts, Minnesota, **Missouri,** New Jersey, New Mexico, North Carolina, Puerto Rico, South Carolina, Tennessee, Virginia, Washington and Wisconsin.

THE PUBLIC has strong pro-physician attitudes on professional liability issues, according to a survey conducted by the AMA Group on Public and Federation Relations. Most people do not think that malpractice suits usually are justified, although 47% hold the opposite view. A majority (61%) of the public respondents in 1,504 telephone interviews favored limits on malpractice awards. Forty-seven percent of the public respondents think current malpractice awards are too high, while 7% think awards are not high enough. Of the 1,000 physician respondents in the survey, 92% rated better physician-patient rapport as a very effective method of reducing professional liability risk. On average, physicians in the survey estimated that 22% of malpractice claims are the result of actual negligence.

THE AMA EDUCATION and Research Foundation will fund and cosponsor four student research forums in 1983. The AMA-ERF Board of Directors granted $53,000 to the University of Texas Medical Branch in Galveston to finance three regional forums and a national forum designed to encourage medical research by students. The national forum will be in Galveston in April. The regional forums will be at Carmel, Calif., February 9-11; University of Miami School of Medicine, March 2-4; and Michigan State University, March 31-April 1.

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References: 1. Kales A *et al: J Clin Pharmacol 17*:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **3.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **4.** Kales A *et al: JAMA 241*:1692-1695, Apr 20, 1979. **5.** Kales A, Scharf MB, Kales JD: *Science 201*:1039-1041, Sep 15, 1978. **6.** Kales A *et al: Clin Pharmacol Ther 19*:576-583, May 1976. **7.** Kales A, Kales JD: *Pharmacol Physicians 4*:1-6, Sep 1970. **8.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **9.** Dement WC *et al: Behav Med 5*:25-31, Oct 1978. **10.** Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **11.** Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. **12.** Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. **13.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

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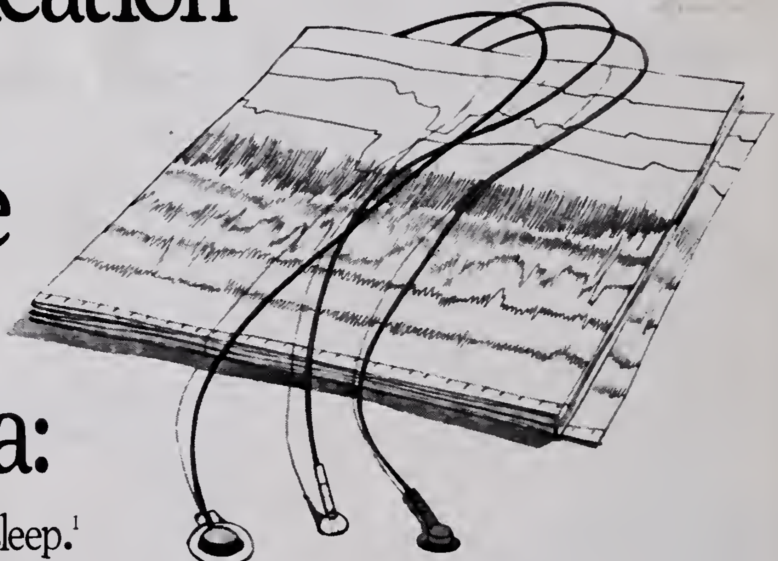

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Missouri Medicine

Vol. 80, No. 2 (ISSN 0026-6620) February, 1983

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March 17-20

Tan-Tar-A Resort
Lake of the Ozarks

Diabetes and Fiber

A Review

Directory of Medical Specialty Organizations in Missouri

Tan-Tar-A Resort

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Pregnancy and Liver Disease

A Community Hospital Experience

EDITOR'S CORNER

"My Stomach Sneezes!"

Missouri State Medical Association

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Claim Representative

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February 1983

PROGRESS NOTES

missouri state medical association

MMPAC, AMPAC Successful on Election Day

The efforts of the Missouri Medical Political Action Committee (MMPAC) in the 1982 elections were met with much success on November 2. The American Medical Political Action Committee (AMPAC) met with equally impressive results on Election Day.

MMPAC is a voluntary committee of Missouri physicians who contribute funds to the election of candidates with philosophies similar to that of the medical profession.

For both MMPAC and AMPAC, the numbers tell the story:

- MMPAC supported eight candidates for the Missouri Senate. Seven won.
- MMPAC supported 49 candidates to the Missouri House. 44 won.
- MMPAC also gave money to nine congressional candidates. Seven won.
- When the books were closed on the 1982 General Elections in Missouri, MMPAC had given $22,700 to 68 candidates, 59 of whom won on November 2 — a winning record for MMPAC of 87 percent.
- AMPAC supported 493 candidates with a success rate of 85 percent.
- AMPAC supported 251 Republicans and 154 Democrats.
- AMPAC was involved in 447 U.S. House races and 46 U.S. Senate races.
- AMPAC spent $1,730,855 for candidate support with $391,564 going for research, $235,640 for independent expenditures, and $3,181 for other in-kind projects.

The goal of both MMPAC and AMPAC is to *involve* physicians, through contributions, education and participation, in campaigns on the state and national level.

Final Ruling Delayed

The Department of Health and Human Services (HHS) has delayed publication of a *final* rule on Medicare payments to hospital-based physicians. The ruling is now expected by the end of this month.

An interim final rule was issued prior to the October 1, 1982 implementation date; however, HHS may make the final rule effective on a prospective basis since so many comments have been received and significant changes may be made in the rule.

Further information will be distributed as soon as HHS publishes the final rule.

AMA Announces 20 New PMIs Available

The AMA has announced that 20 new Patient Medication Information (PMI) sheets will become available beginning next month.

PMI's are 5$\frac{1}{2}$" x 8$\frac{1}{2}$" sheets printed on both sides with instructions in clear, simple language detailing the purpose of the drug, how it is to be taken and its possible side effects. Space is provided to write the dosage and any special instructions the physician may have for the individual patient.

The following 20 PMIs will be available in March: Lithium, Haloperidol, Hydralazine, Guanethidine, Valproic Acid, Ethosuximide, Allopurinol, Oral Xanthine Derivatives, Thyroid Replacement, Metronidazole, Oral Clindamycin/Lincomycin, Oral Chloramphenicol, Levodopa/Carbidopa and Levodopa, Ergot Derivatives, Indomethacin, Phenylbutazone/Oxyphenbutazone, Quinidine/Procainamide, Iron Supplements, Verapamil, and Nifedipine.

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MSMA's Annual Convention

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at

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The following 20 PMIs became available in October: Furosemide, Thiazide Diuretics, Penicillins-Oral, Beta Blockers, Digitalis Medicines, Coumarin-Type Anticoagulants, Oral Antidiabetes Medicines, Tetracyclines, Cephalosporins-Oral, Erythromycin, Nonsteroidal Anti-inflammatory Drugs, Benzodiazepines, Nitroglycerin Sublingual Tablets, Methyldopa, Insulin Corticosteroids-Oral, Cimetidine, Belladona Alkaloids and Barbiturates, Phenytoin, and Sulfonamides.

Doctors who would like to order PMI's should write to the AMA Order Department-PMI Program, 535 North Dearborn St., Chicago, Illinois 60610. The cost per pad of 100 is .50 cents, which covers postage and handling charges. **Payment should be prepaid.**

Profession and Patients Receive Special Gift

At a time when physicians are becoming increasingly concerned and vocal about improving the medical profession's image with the public and the media, there is one Missouri physician who isn't talking — he's too busy doing.

As an early Christmas present to his community, Dr. Donald Patterson of Joplin opened up his heart and the clinic he co-owns to more than 350 residents for free health care.

Two days before Christmas, Dr. Patterson, a general practitioner in Joplin for 27 years, and the 11 doctors at the clinic worked from 7 a.m. to 8:30 p.m. taking X-rays, cleaning teeth, and examining children whose parents could not afford a trip to the doctor.

Dr. Patterson's son, David, who is also the clinic's dentist, cleaned teeth and offered dental evaluation for about 38 individuals.

"It was marvelous," Dr. Patterson said. "Our feet are tired, our legs are tired, but our hearts are very light. It's one of the most warm human feelings I've had in a long time."

The clinic's normal staff of 40 was doubled by volunteers, including a group of nurses who arrived after completing their shift at Freeman Hospital.

Pharmaceutical companies donated samples worth $2,000 to $3,000 including 40 cases of baby formula, antibiotics, and cough syrup.

Dr. Patterson said the clinic's diagnoses that day included five cases of pneumonia, a bone tumor and congenital heart trouble.

Each patient received an estimated $35 to $50 worth of free medical attention, Dr. Patterson said.

"We had a real good year, and I just wondered what I could do for the community," Dr. Patterson said. "Things are a little tough down here in Joplin right now. A good half of these (patients) were children whose parents had to hold off from going to the doctor for a long time. I couldn't give away any food, and I couldn't give away any toys, but I could give away my knowledge," he said.

Dr. Patterson's generousity did not go unnoticed. The Associated Press carried his story in papers all across the state including Springfield, Jefferson City, St. Joseph, Kennett, Neosho, St. Louis, and Kansas City.

The number of beneficiaries from Dr. Patterson's good will extends far beyond the patients who came to his office that day. The Missouri medical community can thank the doctor for helping improve the image of their profession with both the public and the media.

Health Care Systems: New Report Available

The first report of a five-part series on Health Maintenance Organizations (HMO's), Preferred Provider Organizations (PPO's), Freestanding Emergency Care Centers (FEC's), and Hospital Satellite Clinics, has been released by the Commission on Medical Economics, Third Party Medicine, and Governmental Relations.

The reports, requested by the Missouri State Medical Association House of Delegates at their 1982 Annual Convention, will examine the extent of activity by these health care systems and will assess the overall impact they have on the medical profession in Missouri.

The first report defines each type of system and identifies eight HMO's, no PPO's, nine FEC's and 18 Hospital Satellite Clinics operated by 12 different hospitals.

For a copy of the first report,contact Doug Viehland, Director of Governmental Relations, at the Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102.

PR Update

Dr. Georgia Nolph discusses fad dieting with Paul Pepper on the "Pepper and Friends" show which airs weekly in mid-Missouri. Several other MSMA doctors also have appeared as guests on the popular evening show.

New PSAs On the Air

This month, three new public service announcements (PSA's) from MSMA will be delivered to every major television station in the state. In addition, four new radio PSA's have been received by 150 Missouri radio stations.

The 30-second television spots concern sensible dieting, child restraint car seats, and prescription medicine. Each spot is identified as a public service provided by the Missouri State Medical Association.

Last year, MSMA's public service announcements received over $80,000 in free television broadcast time.

The four new radio PSA's are on cardiopulmonary resuscitation, choosing a nursing home, medicine cabinets, and child-proofing a home.

Floor Action to Begin on Medical Legislation

The Missouri General Assembly has been back at work for several weeks now. Already several pieces of medicine-related legislation have been heard, or have been scheduled to be heard, in House and Senate committees. Floor action on some of these bills is expected to begin this month.

The medical issues this year are as important as they are numerous. A *few* of the bills introduced are listed below. (NOTE: HB is House Bill; SB is Senate Bill.)

HB 29	**and SB 203.** *Child Auto Restraints.* Requires children under four-years-old to be in an approved restraint while riding in parents' or guardians' vehicle.
HB 21	*Helmet Law Repeal.* Would repeal law requiring motorcyclists to wear helmets.
HB 59	*Wrongful Death.* Would deny a physician a license for 10 years upon conviction of "wrongful death."
HB 70	*Social Workers.* Would license social workers.
HB 74	*Good Samaritan.* Would expand state's Good Samaritan law to cover LPN's, first aid instructors, etc.
HB 107	*Eye Tissues-Transplants.* Would allow coroners to remove eye tissue in autopsies for transplants.
HB 112	*Physician's Assistant.* Would provide for registration of physician's assistants. Could not perform optometric duties.
HB 145	*Patient Access to Records.* Requires physicians to furnish patients a copy of records upon request.
HB 225	*Handicapped Infants.* Places legal safeguards in state statutes such as prohibiting persons from depriving a handicapped infant of food and water.
HB 407	**and SB 90** *Radiation Protection Act.* Aimed primarily at industries which produce radioactive waste, but could have some effect on X-ray equipment.
HB 346	*HMO's.* Would provide for regulation of HMO's by State Division of Insurance.
SB 43	*Blues-Taxation.* Calls for a premium tax on Blue Cross/Blue Shield.
SB 44	**SB 45, and HB 36** *Guardianship.* Completely rewrites the state's statutes regarding guardianship. May be a major issue this Session.
SB 188	*Respiratory Therapists.* The respiratory therapists join about a dozen other allied health personnel groups seeking licensure. This would limit the practice to only licensed individuals thus increasing costs and decreasing availability.
HB 450	**and SB 336** *LPN's and I.V.'s.* Would permit licensed practical nurses to administer intravenous fluid injections.
HB 506	*Occupational Therapy-Licensure.* Would limit those treatments defined as occupational therapy to licensed OT's.
HB 596	*DMSO.* Removes liability for prescribing, administering or dispensing DMSO.
SB 163	**and HB 529** *Cancer Reporting System.* Would require that all cases of cancer and follow-up be reported to the Division of Health.
HB 659	*Physicians — Previous Locations.* Would require physicians seeking licensure in Missouri to list all previous practice locations in chronological order. Introduced at MSMA request.

If you would like additional information on these bills or any other current medical legislation in Missouri, write the Missouri State Medical Association. You may contact your state legislators at the Capitol Building, Jefferson City, 65102.

Council Answers Appeals Question On Expert Witnesses

On December 11, 1982, after completing the regular agenda, the MSMA Council went into Executive Session to hear an appeal from the decision of a Councilor Board established under the provisions of Chapter VI, Section 4 of the Bylaws.

The MSMA Council acts as the appellate Board of Censors for the Association. It hears and adjudicates matters of an ethical nature.

A member had charged another member with violating the provisions of Section 2, Chapter IX of the Bylaws. A three-physician Councilor Board concluded that the physician charged had acted in an unethical manner as an expert witness and that he be subject to reprimand. The decision of the Board was reaffirmed by the Council.

The final conclusion of both the Councilor Board and Council was "that the real importance of this hearing was to call to the attention of the members of the Missouri State Medical Association that it behooves any physician, when giving testimony either by deposition or in the courtroom, to choose his responses carefully. Areas of questioning in which the individual is not knowledgeable or conversant should be avoided. Under all circumstances, physicians should avoid comments in areas of questioning in which they are not qualified or trained."

Two Former MSMA Presidents Die

Dr. Gerald L. Miller

Two former Missouri State Medical Association presidents died last month. Dr. Robert L. Mueller, St. Louis, served as MSMA president from 1948-1949 and Dr. Gerald L. Miller, Kansas City, served as president from 1971-1972.

Dr. Mueller, 89, was also a former president of the St. Louis Medical Society. He was a battle surgeon attached to the U.S. Marine Corps in World War I when he won the Navy Cross. He was also head of the state's procurement and assignment of doctors during World War II.

Dr. Miller, 69, an obstetrician and gynecologist, was in private practice in Kansas City from 1946 until he retired in 1980. He was the first resident in obstetrics and gynecology at the former Kansas City General Hospital. He had been a staff member of Research Medical Center, St. Mary's Hospital, St. Joseph Hospital, Truman Medical Center, St. Luke's Hospital and Trinity Lutheran Hospital.

Dr. Robert L. Mueller

Guidelines for Handicapped Infants' Care

There has been an increasing amount of public and media awareness recently regarding life support measures for severely deformed infants. Legislation on this matter has been introduced in Congress (HB 6492) as well as in both Houses of the current session of the Missouri General Assembly (HB 225 and SB 237).

MSMA members should be aware that the AMA Judicial Council provides guidelines for physicians dealing with these difficult situations. Reprinted below are Sections 2.10 and 2.11 of the "Current Opinions of the Judicial Council of the AMA-1982:"

TERMINAL ILLNESS. The social commitment of the physician is to prolong life and relieve suffering. Where the observance of one conflicts with the other, the physician, patient, and/or family of the patient have discretion to resolve the conflict.

For humane reasons, with informed consent a physician may do what is medically necessary to alleviate severe pain, or cease or omit treatments to let a terminally ill patient die, but he should not intentionally cause death. In determining whether the administration of potentially life-prolonging medical treatment is in the best interest of the patient, the physician should consider what the possibility is for extending life under humane and comfortable conditions and what are the wishes and attitudes of the family or those who have responsibility for the custody of the patient.

Where a terminally ill patient's coma is beyond doubt irreversible and there are adequate safeguards to confirm the accuracy of the diagnosis, all means of life support may be discontinued. If death does not occur when life support systems are discontinued, the comfort and dignity of the patient should be maintained.

QUALITY OF LIFE. In the making of decisions for the treatment of seriously deformed newborns or persons who are severely deteriorated victims of injury, illness or advanced age, the primary consideration should be what is best for the individual patient and not the avoidance of a burden to the family or to society. Quality of life is a factor to be considered in determining what is best for the individual. Life should be cherished despite disabilities and handicaps, except when prolongation would be inhumane and unconscionable. Under these circumstances, withholding or removing life supporting means is ethical provided that the normal care given an individual who is ill is not discontinued.

In desperate situations involving newborns, the advice and judgment of the physician should be readily available, but the decision whether to exert maximal efforts to sustain life should be the choice of the parents. The parents should be told the options, expected benefits, risks and limits of any proposed care; how the potential for human relationships is affected by the infant's condition; and relevant information and answers to their questions. The presumption is that the love which parents usually have for their children will be dominant in the decisions which they make in determining what is in the best interest of their children. It is to be expected that parents will act unselfishly, particularly where life itself is at stake. Unless there is convincing evidence to the contrary, parental authority should be respected.

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- Measured against a propoxyphene-acetaminophen combination for pain relief after 3rd molar extractions, ibuprofen proved equally effective and caused fewer side effects. Ibuprofen was associated with faster recovery, evidenced by more rapid reduction of trismus and return to normal function.[3]
- Measured against post-episiotomy pain in 30 patients, "ibuprofen was effective in treating the swelling as well as pain...during the first and worst days. Therefore, it is not only the analgesic but also the anti-inflammatory effect of ibuprofen that are the beneficial factors..."[4]

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References:

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4. Taina E: Curr Med Res Opinion, 7:423-428, 1981.

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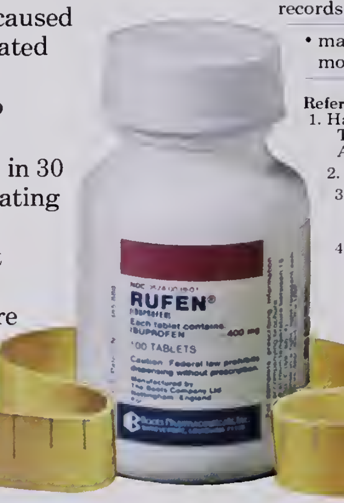

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Relief of mild to moderate pain. Treatment of primary dysmenorrhea.

CONTRAINDICATIONS: Patients hypersensitive to ibuprofen, or with the syndrome of nasal polyps, angio-edema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory drugs (see WARNINGS).

WARNINGS: Anaphylactoid reactions have occurred in patients hypersensitive to aspirin (see CONTRAINDICATIONS). Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Peptic ulceration, perforation, or gastrointestinal bleeding can end fatally; however, an association has not been established. Rufen should be given under close supervision to patients with a history of upper gastrointestinal tract disease, and only after consulting the ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be attempted. If Rufen must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

PRECAUTIONS: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If developed, discontinue Rufen and administer an ophthalmologic examination.

Fluid retention and edema have been associated with Rufen; caution should be used in patients with a history of cardiac decompensation.

Rufen can inhibit platelet aggregation and prolong bleeding time. Use with caution in patients with intrinsic coagulation defects and those taking anticoagulants.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy, this therapy should be tapered slowly when adding Rufen.

DRUG INTERACTION: *Coumarin-type anticoagulants.* The physician should be cautious when administering Rufen to patients on anticoagulants.

Aspirin. Concomitant use may decrease Rufen blood levels.

PREGNANCY AND NURSING MOTHERS: Rufen should not be taken during pregnancy nor by nursing mothers.

ADVERSE REACTIONS: Incidence greater than 1%. Gastrointestinal: The most frequent adverse reaction is gastrointestinal (4 to 16%). Includes nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence). Central Nervous System: dizziness*, headache, nervousness. Dermatologic: rash* (including maculopapular type), pruritus. Special Senses: tinnitus. Metabolic: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS). *Incidence 3% to 9%.

Incidence less than 1 in 100. Gastrointestinal: gastric or duodenal ulcer with bleeding and/or perforation, hemorrhage, melena. Central Nervous System: depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma. Dermatologic: vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome and alopecia. *Special Senses:* hearing loss, amblyopia (blurred and/or diminished vision, scotomata and/or changes in color vision) [see PRECAUTIONS]. Hematologic: neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs' positive), thrombocytopenia with or without purpura eosinophilia, decreases in hemoglobin and hematocrit. Cardiovascular: congestive heart failure in patients with marginal cardiac function, elevated blood pressure. Allergic: syndrome of abdominal pain, fever, chills, nausea and vomiting, anaphylaxis, bronchospasms (see CONTRAINDICATIONS). Renal: acute renal failure in patients with preexisting significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria. Miscellaneous: dry eyes and mouth, gingival ulcers, rhinitis.

Causal relationship unknown. Gastrointestinal: pancreatitis. Central Nervous System: paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri. Dermatologic: toxic epidermal necrolysis, photoallergic skin reactions. Special Senses: conjunctivitis, diplopia, optic neuritis. Hematologic: bleeding episodes. Allergic: serum sickness, lupus erythematosus syndrome, Henoch-Schonlein vasculitis. Endocrine: gynecomastia, hypoglycemia. Cardiovascular: arrhythmias (sinus tachycardia, bradycardia, and palpitations). Renal: renal papillary necrosis.

OVERDOSAGE: Acute overdosage, the stomach should be emptied. Rufen is acidic and excreted in the urine, alkaline diuresis may benefit.

DOSAGE AND ADMINISTRATION: Rheumatoid arthritis and osteoarthritis, including flareups of chronic disease: Suggested dosage 400 mg t.i.d. or q.i.d.

Dysmenorrhea: 400 mg every 4 hours as necessary

Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for the relief of pain. *Do not exceed 2,400 mg per day.*

CAUTION: Federal law prohibits dispensing without prescription.

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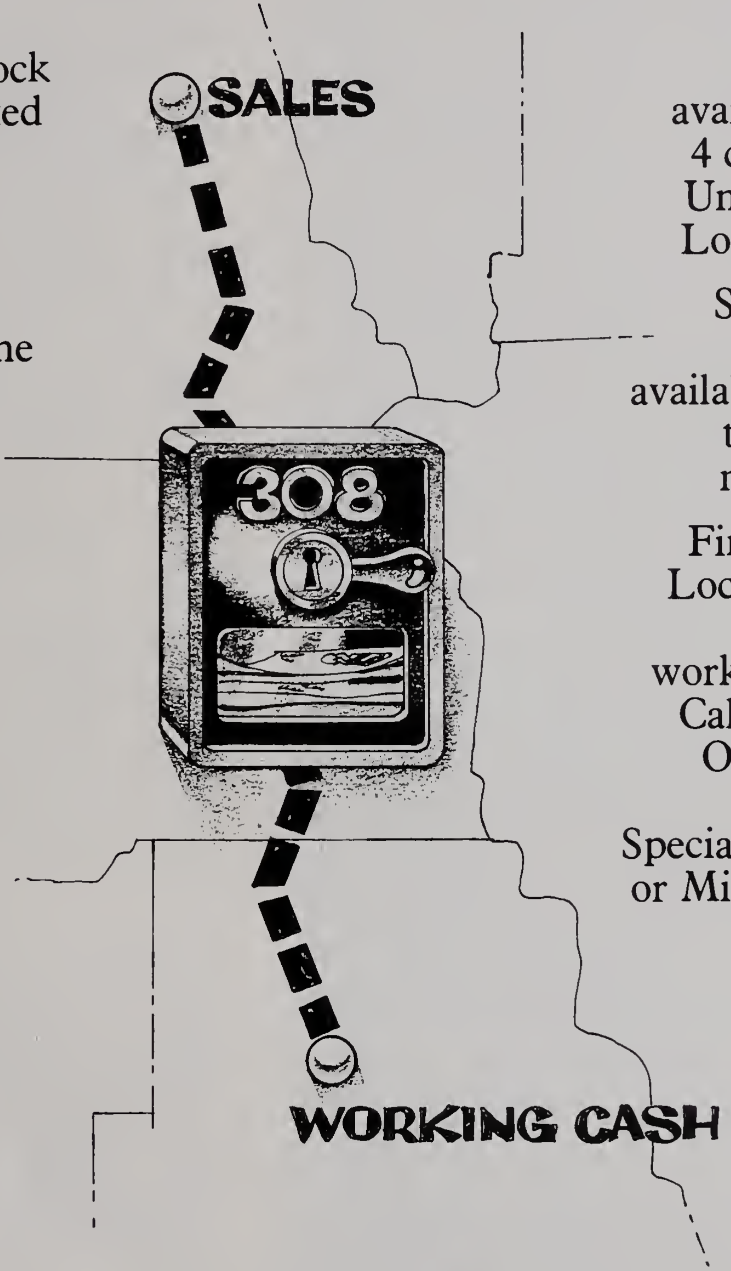

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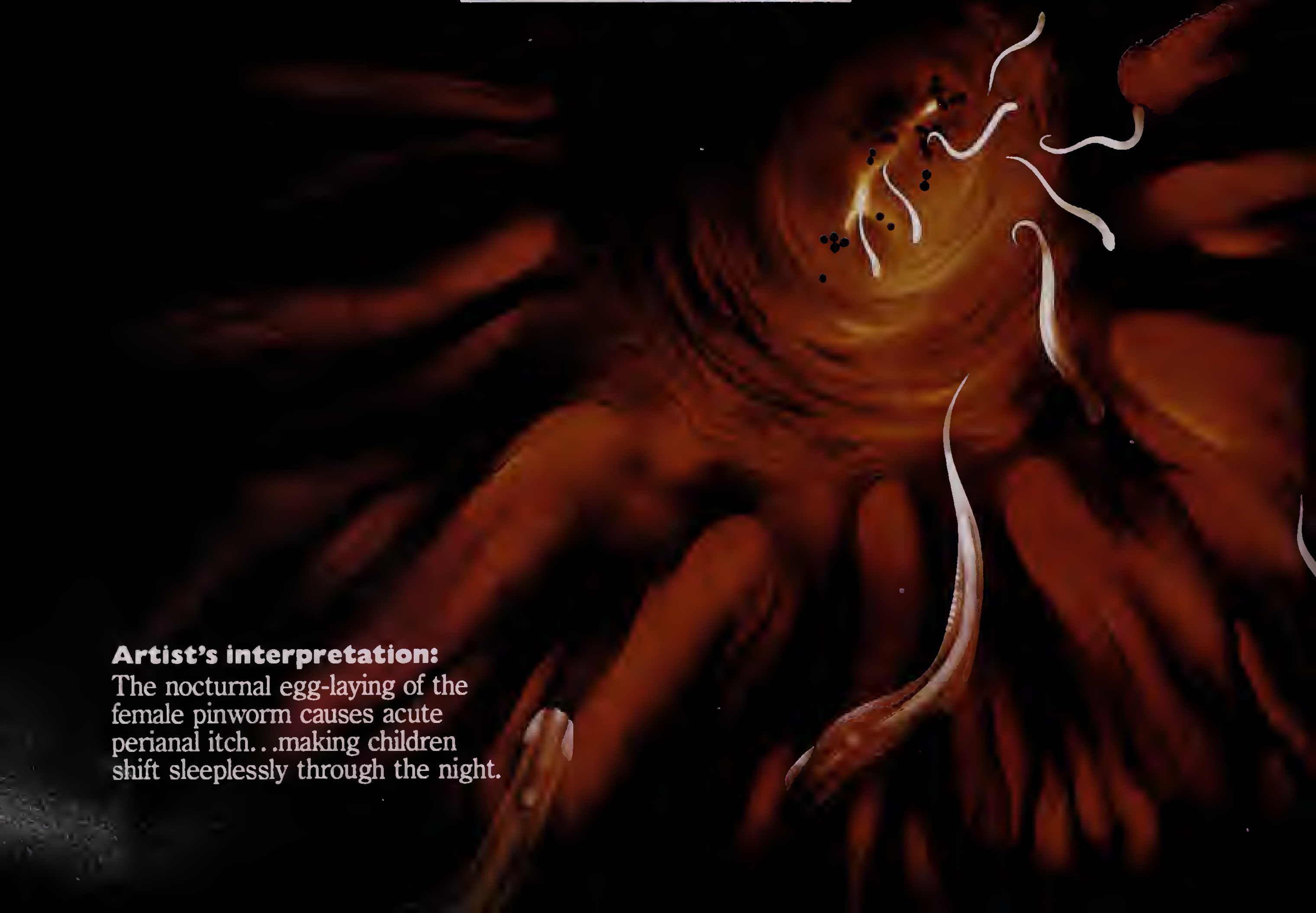
Pinworms work the night shift



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Warnings

Usage in Pregnancy Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

The drug has not been extensively studied in children under two years; therefore, in the treatment of children under the age of two years, the relative benefit/risk should be considered.

Precautions

Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with pre-existing liver dysfunction.

Adverse Reactions

The most frequently encountered adverse reactions are related to the gastrointestinal system.

Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

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Dosage and Administration

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Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day, and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices.

References **1.** Pitts NE, Migliardi JR: *Clinical Pediatrics* 13:87, 1974. **2.** Modell W: *Drugs of Choice* 1980-1981. C. V. Mosby Co., St. Louis, 1980, p. 362. **3.** Goodman LS, Gilman A: *The Pharmacologic Basis of Therapeutics,* 6th edition, MacMillan Publishing Co., Inc., New York, 1980, p. 1032.

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Editor's Corner

"My Stomach Sneezes!"

Every year just before Christmas, there comes a time when people have better things to do than go to the doctor, and the office schedule often has some slack time. Then, during these preholiday doldrums, there's an opportunity to catch up on some odds and ends. It's time to read — or toss — some old journals, with heavy emphasis on those beginning to turn yellow. It's time to replace a screw in a piece of equipment — a project put off since the summer before. The undertaking of lowest priority may even come to the top — cleaning out desk drawers or at least one of them.

It was during such a venture this year that a long-neglected sheet of paper came to light. This contained a list of some of the more unique complaints which patients had thrust at us — real doctor-stoppers. Keeping such a list is now a long abandoned project, but some of these might be equal to those remembered by colleagues over the state.

"*My stomach sneezes*." That's what I like about a "chief complaint" — brief and to the point. This seems like a good case for acupuncture. "*The only time my nose feels good is when I have a cold*." Possibly a masochist. Possibly a Kleenex addict. Neither idea helped solve the patient's problem: how can you catch a cold when you want one?

"*My neck glands have been hurting so much that they gave me diarrhea*." Those neck glands will get you every time. The "old time medicine man" probably had a cure for this patient, but with the FDA being what it is, our hands are tied. "*I can't swallow food and liquids at the same time because of my bad pancreas*." Where's a good gastroenterologist when you need one? Possibly something toxic washed ashore on the Islands of Langerhans.

"*I throw up every time it gets over 80°*." Maybe this is what the old medical texts referred to as "summer complaint." This patient may or may not have been related to the one whose chief aggravation was that "*When I lie out in the sun my ears whistle loud*." For all these years, we've been calling it the "Good Old Summertime." Obviously, there's a minority report to be heard.

"*It hurts when I think*" — perhaps the most succinct of these grievances. The customer in this instance, however, gave the impression of not having had a pain in years. "*I smell the nose drops I use in my stool*." Occasionally, a patient's complaint may be provocative and, for a brief moment, thoughts of doing research into the problems pass through my mind. In this instance, no such thoughts occurred. "*When I get nervous I go deaf*." On second thought, this may represent some fairly good insight. Most of us don't really comprehend in time of stress.

Probably there are a number of grains of truth and meaning in even the most aberrant of complaints. As physicians, we're supposed to listen carefully to our patients' problems; sometimes it's hard not to "go deaf."

JORDAN W. BURKEY, M.D.

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Brief Summary of prescribing information

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Volume 80, Number 2—February, 1983

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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DOUGLAS M. ROPE, M.D. *and*
WALTER H. JACOBS, M.D., *Kansas City*

Pregnancy and Liver Disease

A Community Hospital Experience

PREGNANT PATIENTS with liver disease are rarely seen in clinical practice. Decisions about their management often are made without the benefit of prior accumulation of experience or data.

We describe five such patients seen in our community practice. Two are of particular interest: (1) a case of chronic active hepatitis apparently stable for many years with abrupt deterioration in the third trimester of pregnancy ending in maternal death and (2) a unique case of recovery from hepatic failure due to Cytomegalovirus hepatitis.

CASE REPORTS

Case #1 *Chronic Active Hepatitis and Cirrhosis.* A 40-year-old white gravida I was admitted to the hospital in December, 1979 in her 32nd week of pregnancy. Her complaints were of ten days duration; weakness, jaundice, dark urine, weight gain and abdominal distention. Her pregnancy had been satisfactory to that point.

She gave a history of icteric hepatitis 19 years previously while serving in the Peace Corps in Chile. Recovery was apparently uneventful after an illness of approximately one month. In December, 1975, she was hospitalized for upper abdominal pain. At that time, serum glumatic oxaloacetic transaminase (SGOT) level was 186 IU and serum globulin value was 4.2 mg/dl. Alkaline phosphatase and white blood cell count (WBC) was normal. She was found to have a functioning gallbladder containing radiolucent stones. No further investigations or treatment were suggested.

An examination at this admission showed icterus and a protuberant abdomen. Blood pressure was 100/60. Liver span was reduced to percussion. Spider nevi, liver palms and profound dependent edema were noted. Asterixis was absent.

Admission laboratory data showed the following values: alkaline phosphatase, 236 IU; (normal gravida 25-105); bilirubin total, 8.5 mg/dl; direct, 4.4; SGOT, 119 IU; albumin, 2.2 gm/dl; and globulin 3.6 gm/dl. Proteinuria was not present. Hepatitis B surface antigen was absent. Antismooth muscle antibody titer was 1:160. Prothrombin time was 15.5 seconds with a control of 12. Antinuclear and antimitochondrial antibodies were absent.

Initial treatment included salt restriction, oral diuretics and prednisone. The patient's condition steadily deteriorated, with icterus becoming more profound and ascites and abdominal discomfort becoming worse. Fetal heart tones became faint and

The authors describe five cases of pregnancy complicated by acute chronic liver disease. Since literature on this subject is sparce and they believe experience is infrequent, it is the hope of the authors that their experience will help to guide their colleagues in a community hospital setting who have patients with this condition.

Dr. Rope is in the private practice of internal medicine. Dr. Jacobs is Director, Goppert Gastroenterology Laboratory, Menorah Medical Center and Clinical Professor of Medicine, University of Missouri-Kansas City School of Medicine.

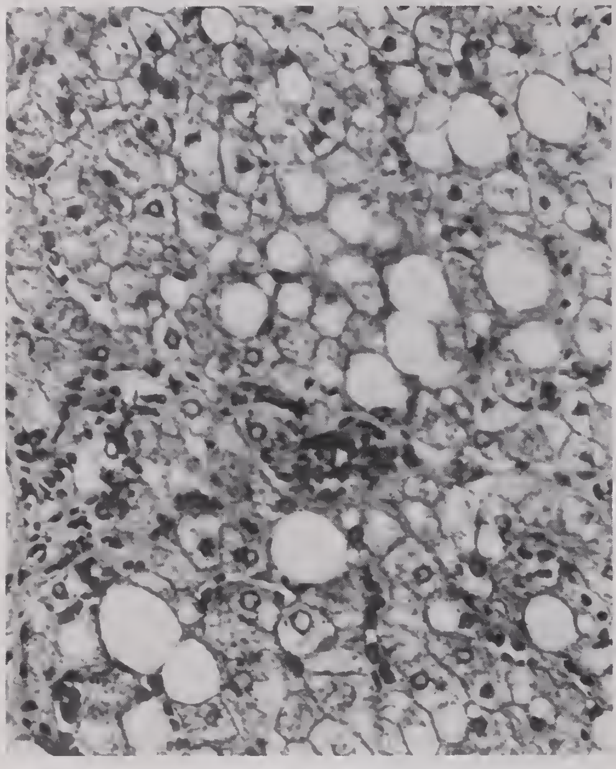

Fig. 1 Case #2. Initial biopsy. Focal hepatocellular necrosis with increased inflammatory infiltrate is seen as well as fatty metamorphosis (333 ×).

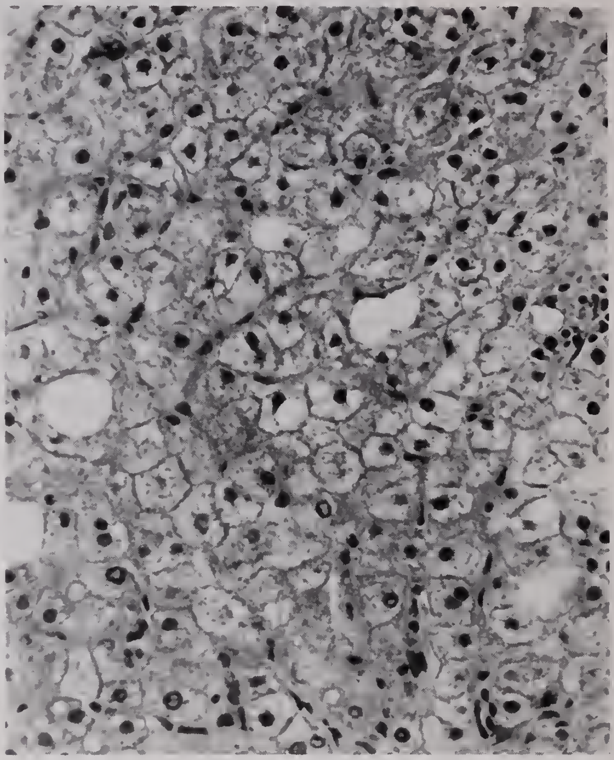

Fig. 2 Case #2. Posttreatment specimen biopsy showing reduction in inflammatory infiltrate and fatty metamorphosis. No hepatocellular necrosis is seen (333 ×).

were inaudible on the fifth hospital day. Ultrasonography suggested fetal demise.

Labor was induced with introvenous (IV) oxytocin. Approximately three hours later, a stillborn fetus was delivered. Brisk rectal bleeding began three hours postpartum and large esophageal varices were demonstrated at emergency endoscopy. In spite of vigorous supportive measures, the patient died one week later because of uncontrolled esophageal hemorrhage complicated by hepatic encephalopathy.

An autopsy revealed severe posthepatitic cirrhosis superimposed on chronic active hepatitis. The presence of stones in the gallbladder and common bile duct, as well as large esophagogastric varices, were confirmed.

Case #2 *Chronic Active Hepatitis*. A 29-year-old white woman was first seen with weakness and amenorrhea of eight-months duration and a 20 lb weight gain during the previous year. A cholecystectomy had been performed four years previously. Physical examination disclosed an obese woman 158 cm tall, weighing 85 kg and with acne and slight scleral icterus. Liver and spleen were palpable and both were two finger breadths below the costal margins. Bilirubin level was elevated at 2.2 total mg/dl, 0.4 direct; SGOT level was 384 IU; antismooth muscle antibody was positive in a 1:40 dilution. Antinuclear antibody (ANA) was positive in a 1:20 dilution. Hepatitis B surface antigen was negative. Immunoglobulins, prothrombin time, ceruloplasmin values all were normal.

A liver specimen biopsy showed fatty metamorphosis with focal areas of necrosis (Fig. 1).

A trichrome stain showed connective tissue strands extending from the portal fields into the parenchyma. A *p*-aminosalicylic acid (PAS) stain suggested the presence of hyalin (as with alcoholism). The patient was treated with prednisone and azathioprine without complication for the following two years. She felt well, liver function improved and the administration of drugs was discontinued at her request. A liver specimen biopsy done four months afterward showed slight fatty metamorphosis, no necrosis or chronic inflammation and normal portal triads (Fig. 2). Bilirubin level had decreased to 2 mg/dl; SGOT level had decreased to 120 IU.

Shortly thereafter, a diagnosis of polycystic ovarian disease was made. Six months after this diagnosis, the patient underwent ovarian wedge resection under spinal anesthesia. Postoperatively, bilirubin level rose, as did the transaminases. Prednisone and azathioprine were readministered. Liver function returned to normal, but the patient demonstrated persistent hypertension and developed insulin-dependent diabetes mellitus. A repeat liver specimen biopsy was not done. The steroid and azathioprine therapy were discontinued. Liver function remained normal.

Five years after the initial diagnosis, she became pregnant and delivered a healthy child at full term. Pregnancy was uneventful and results of liver function tests remained essentially normal. Remission postpartum was confirmed with standard tests of liver function including bile acids. Smooth muscle antibody has remained positive during this time at a 1:20 dilution.

Case #3 *Laennec's Cirrhosis* — This patient was first hospitalized in 1969 with alcoholic hepatitis at the age of 31 years. She gave a 15-year history of consumption of greater than 1 pt of liquor daily. Hepatosplenomegaly was demonstrated and the patient was cautioned about her alcohol consumption. She continued drinking, however, and jaundice and ascites developed. Six months after her discharge from the hospital, she was pregnant again.

In spite of persistent hepatic problems, she carried the pregnancy to term and delivered a normal child without complications. Her drinking continued and chronic pancreatitis with insulin dependent diabetes developed. She died six years after the birth of her child, after an unsuccessful attempt at shunt surgery to control recurrent variceal hemorrhage.

Case #4 *Probable Acute Fatty Metamorphosis of Pregnancy*. A 30-year-old gravida II para I was admitted to the hospital during her 39th week of pregnancy. On the evening of admission, she delivered normal twins. Delivery was complicated by excessive blood loss and persistent postpartum hemorrhage that required blood component infusion. In addition, her postpartum blood pressure remained at 60-80 systolic and metaraminol was required to maintain a systolic blood pressure between 90-100. At delivery, she was noted to be icteric. She confirmed that she had noticed these changes that began three days prior to delivery. This was coincident with the onset of upper abdominal pain, diarrhea, headache and dark urine.

Initial laboratory data showed a bilirubin level of 9.6 mg/dl total and alkaline phosphatase value of 345 IU/ml. SGOT level was too high to measure. Subsequent studies revealed a bilirubin level of 13 total with 8.2 direct, an SGOT level of 87 IU, and a normal fibrinogen value. Prothrombin time was prolonged (17 seconds with a control of 12), APTT was 65 seconds with a control of 34. On the third day after delivery, the patient complained of itching and became lethargic. Examination results disclosed bilateral Babinski reflexes, lethargy and asterixis. Liver span was increased to percussion.

Treatment for hepatic encephalopathy, including neomycin, laxatives and enemas, was instituted (lactulose was not available). The patient responded rapidly. By the sixth day, her bilirubin level was dropping. Recovery was subsequently uneventful with complete resolution. A liver specimen biopsy was refused.

Case #5 *Acute Fulminant Hepatitis Due to Cytomegalic Virus Disease*. A 26-year-old gravida III para I was admitted to the hospital during her 38th week of a normal pregnancy. She complained of increasingly severe nausea and vomiting following a chest cold. She had been treated with ampicillin and decongestants by her family physician.

Initial examination revealed a woman at term without fever or icterus. Fetal heart tones were absent. Admission laboratory data showed a hematocrit value of 53, a white blood cell count of 3,500 with 13% lymphocytes and fibrinogen value of 61 (normal higher than 150).

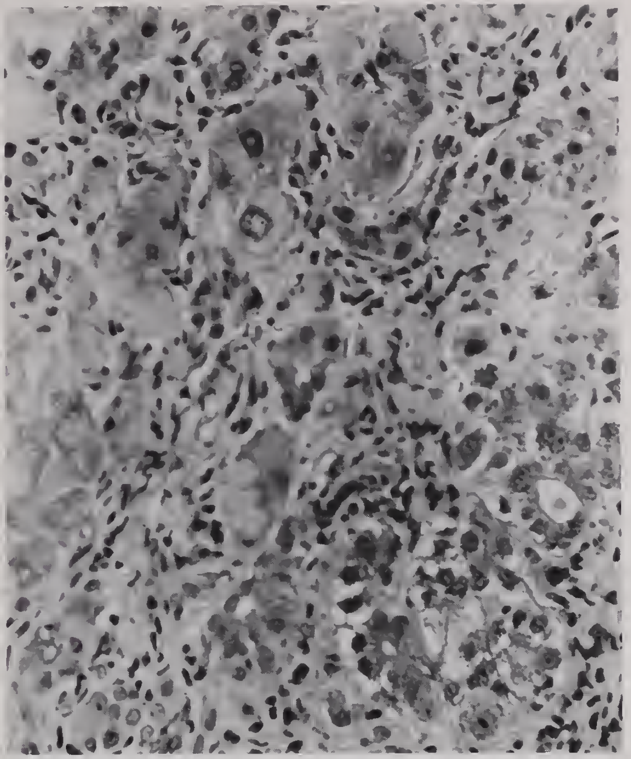

Fig. 3 Case #5. Liver biopsy showing diffuse inflammation. Hepatocellular degeneration with "ground glass" cytoplasm is seen (333 ×).

Three hours after her admission, spontaneous labor began and shortly thereafter, a stillborn fetus was delivered.

The morning after delivery, the patient became very lethargic and demonstrated asterixis. Physical examination results disclosed icterus, a soft, slightly enlarged, tender liver, enlarged spleen and ascites. Hematocrit level was 47, white blood cell count was 35,000 with 25% lymphocytes and several atypical forms. Bilirubin value was 11.6; SGOT, 440; prothrombin time, 34 seconds; and arterial blood ammonia level, 222 mg%.

Therapy with neomycin and lactulose enemas was instituted. The patient was treated with 10% dextrose infusions. She responded clinically with her sensorium improving and asterixis subsiding. The bilirubin level fell rapidly and the ammonia level normalized by the fifth hospital day.

Serologic studies made on the third hospital day showed negative mono spot test and negative test for Hepatitis B surface antigen. Complement fixation test and indirect hemagglutination test for Cytomegalovirus showed a progressive rise. Also, the virus was cultured from her urine. Result of a hepatitis A antibody specimen drawn on the seventh hospital day was negative.

A liver specimen biopsy performed on the 12th hospital day showed disruption in the architecture by a diffuse inflammation with an increase in mitotic activity (Fig. 3). Balloon cells were noted as well as cells with a "ground glass" cytoplasm. Assessment was acute hepatitis in the recovery phase. The patient remains well in good health and free from detectable liver disease at this time.

DISCUSSION

These cases represent a spectrum of liver disease as seen at a community hospital. All but one patient survived their pregnancies by many years.

Two cases of chronic active hepatitis are described. The first patient died with end-stage cirrhosis and liver failure. The particular type of cirrhosis she manifested has been linked specifically with chronic active hepatitis (CAH)[1] distinguished from the latter mainly in degree of injury. Her serologic profile also supports such causes, antimitochondrial antibody being absent and antismooth muscle antibody being present in high titer.

Such tragic outcomes are relatively rare among the 66 reported pregnancies in patients with CAH. Of those cases, five involved maternal death. Two cases, both with surface antigen for hepatitis B (HbSAg), were reported by Schweitzer and Peters.[2] Both had cirrhosis at autopsy. Whelton and Sherlock described a single case, again manifesting cirrhosis at autopsy.[3] Like our patient, her liver disease was thought to be stable prior to the pregnancy. The other two fatalities occurred in Iran.[4] In the last three cases, HbSAg characterization is unavailable.

The consensus remains that the course of CAH is unaffected by pregnancy.[5, 6] No authorities suggest termination of pregnancy for such illnesses or is mention made even of advising such patients to avoid becoming pregnant. Nevertheless, as the first case illustrates, sudden unexpected complications can occur, emphasizing the necessity of constant monitoring. In severe or rapidly progressive disease, corticosteroids and perhaps immunosuppressives should be instituted. The major concern is protection of the mother.

Another interesting aspect of the first case is the early history of asymptomatic hyperglobulinemia and abnormal liver function with a normal white blood cell count and alkaline phosphatase level.

Other authors have distinguished CAH on the basis of HbSAg reactivity, the positive cases having long asymptomatic courses[7, 8] and the negative ones having a poor short-term prognosis.[9] However, no author, in following these diseases, has addressed the problem that one illness can be followed from a well defined initiating event (i.e., an episode of acute hepatitis), while the other can be dated only from the appearance of symptoms — a much less precise method.

One has to wonder how many HbSAg-negative CAH patients, such as ours, are previously HbSAg-positive patients whose diseases have reached sufficient severity to cause symptoms. The above distinction may well be temporal and not etiologic. Available information fails to provide an answer. If such be the case in our patient, an opportunity for early diagnosis and treatment might have been missed four years before her death. Her illness might have followed a vastly different course.

In contrast to Case #1, in which the CAH was treated too late, Case #2 illustrates the safety with which pregnancy may be undertaken in controlled quiescent CAH. On the basis of controlled studies,[10] prednisone and azathioprine are accepted as "state-of-the-art" treatment for CAH, both having been shown to induce remissions and to prolong survival. Although this regimen has been questioned, mainly in HbSAg-positive patients,[8, 11] the patient in Case #2 would appear to be a good candidate for it. Judging from her outcome, she benefitted well from it.

No treatment is effective in alcoholic cirrhosis, and patients (such as in Case #3), are particularly difficult for clinicians to treat. This woman obviously had severe cirrhosis during pregnancy. Nonetheless, the pregnancy itself was quite uneventful. She died only after many more years of alcohol abuse, multiple admissions for variceal bleeding and an unsuccessful attempt at portasystemic shunting.

Acute fatty liver of pregnancy is poorly understood and usually fatal both to mother and fetus. Some cases were thought to have been caused by intravenous administration of large doses of tetracycline, but in the majority of these cases no precipitating factor is apparent. Headache, nausea and abdominal distress are characteristic early symptoms, and many patients will have gastrointestinal bleeding and jaundice.[12] The characteristic pathologic change is fine fatty droplets in the hepatocytes with minimal inflammatory infiltrate. The features are quite similar to those seen in Reye's syndrome, a disease that in this country often follows an apparent viral illness. An etiologic relationship between the two diseases is by no means certain, however.

The fourth case probably was one of acute fatty liver of pregnancy and is notable in that the pa-

(Continued on page 75)

JOHN H. RIPPEY, M.D., C. KEITH WHITTAKER, M.D.
and PATRICIA HOOD, M.T. (ASCP), *Kansas City*

Evaluation of FTA Test Results on Cerebrospinal Fluid Specimens

In the presence of a reactive serum FTA-ABS test, a reactive CSF FTA test correlates highly with clinical evidence suggesting late neurosyphilis. False-positive reactive CSF FTA results occur when CSF total protein levels exceed 100 mg/dl and are accompanied by nonreactive serum FTA-ABS tests.

The authors are from St. Luke's Hospital where this study was completed under the sponsorship of the Department of Neurosciences and the Department of Pathology.

THE CLINICAL FINDINGS in late neurosyphilis are often obscure.[1] Consequently, objective documentation for the existence of late neurosyphilis is difficult. The only laboratory procedure approved for this purpose by the Centers for Disease Control is a cerebrospinal fluid VDRL test. This test is reportedly reactive in only 15% to 57% of cases.[3-6] It has been stated that the cerebrospinal fluid fluorescent treponemal antibody (FTA) test is reactive in 82% to 100% of late neurosyphilis cases.[3, 4, 6] Herein, we tabulate the data associated with 808 consecutive cerebrospinal fluid (CSF) FTA tests, including 56 with reactive results, compiled over a two-year period. Such correlations should help in determining how strongly a reactive CSF FTA test indicates a diagnosis of late neurosyphilis. This is particularly of interest when the patient's serum test result is nonreactive.

The methodologic characteristics of the VDRL, RPR, FTA and FTA-ABS tests are listed in Table 1.[7, 8] Table 2 lists the reported incidence of reactive results that can be anticipated in cases of late neurosyphilis for serum VDRL and serum RPR tests,[3, 5, 9] serum FTA-ABS test,[5, 9] CSF VDRL test,[3-6] CSF FTA test, [3, 4, 6] and CSF FTA-ABS test.[4, 6] The variations noted are due to both the difficulty in clinically establishing the diagnosis and the relative sensitivities of the different tests.

Table 2 lists the reported incidence of false-positive reactive results that can be anticipated with these procedures.[4, 8, 9] Deduction from this data would indicate that a patient with late neurosyphilis should, with a high probability, have a reactive CSF FTA test and a reactive serum FTA-ABS test.

METHODS

During the two-year time period of this study, all patients admitted to St. Luke's Hospital in Kansas City had a serum RPR[2] performed as part of an admission laboratory evaluation. All reactive test results were followed with a confirmatory serum FTA-ABS[2] determination. During the same time period, a CSF FTA test[3] was done on all cerebrospinal fluids received in the laboratory. In the second year of the study, serum FTA-ABS tests also were routinely done on all patients who

TABLE 1
METHODOLOGIC FEATURES[7, 8]

	VDRL	*RPR*	*FTA*	*FTA-ABS*
Test Technique	*Microscopic Slide Flocculation*	*Visual Slide Flocculation*	*Indirect Immunofluorescence Microscopy*	*Indirect Immunofluorescence Microscopy*
Reagent Antigen	*Cardiolipin*	*Cardiolipin*	*T. Pallidum*	*T. Pallidum*
The test specimen is initially absorbed with Reiter treponemes	NO	NO	NO	YES
With therapy, a reactive result tends to revert to non-reactive	YES	YES	NO	NO
After a prolonged time period, a reactive result tends to revert to nonreactive, even without therapy	YES	YES	NO	NO

TABLE 2
REPORTED TEST PERFORMANCES

	A. *Anticipated Percent of Reactive Results in Late Neurosyphilis*	B. *Reported Procedural False-Positive Rate*
Serum VDRL/ RPR[3, 5, 8, 9]	49%-74%	10%-30%
Serum FTA-ABS[5, 9]	94%-100%	1%-2%
CSF VDRL[3-6]	15%-57%	0%
CSF FTA[4, 6, 8]	89%-100%	3%-10%
CSF FTA-ABS[4, 6]	22%-45%	0%

had a reactive CSF FTA result. Total protein level tests[10] were performed on all CSF specimens and CSF cell count tests[11] were performed in the majority of cases. Finally, charts were reviewed for clinical evidence of possible late neurosyphilis in all cases with a reactive CSF FTA test result. Such clinical evidence consisted of reflex, pupil, eye, sensory, gait and/or personality changes,[1, 5, 11] as well as a history of syphilis or syphilis treatment.

Results

Table 3 lists the associated laboratory findings in 26 patients with reactive CSF FTA tests who had clinical evidence suggesting the presence of late neurosyphilis. Table 3, column B, shows the same data for 30 patients with reactive CSF FTA tests who had no clinical findings of late neurosyphilis. Of the patients tested with probable late neurosyphilis, 100% (24/24) had a reactive serum FTA-ABS test and none (0/26) had a CSF total protein level greater than 100 mg/dl. Three of these patients could feasibly have had a reactive CSF FTA test due to specimen contamination with blood because they had CSF red blood cell counts above 1,000/cmm.[6] Of the patients tested with no clinical evidence of late neurosyphilis, 8% (1/12) had a reactive serum FTA-ABS test. Sixty-three percent (19/30) had a CSF total protein level higher than 100 mg/dl.

Discussion

The data in this report support the hypothesis that patients with probable late neurosyphilis are characterized by the presence of a reactive CSF FTA test and a reactive serum FTA-ABS test. The one exception in this series was a 34-year-old man who was a suspected homosexual with viral hepatitis and condyloma accuminata. He had a reactive CSF FTA, a reactive serum RPR, a reactive serum FTA-ABS, a CSF total protein level of 41 mg/dl and CSF white blood cell count of 194/cmm with no red cells present. There was no clinical evidence of neurosyphilis.

TABLE 3
56 ST. LUKE'S HOSPITAL PATIENTS WITH REACTIVE CSF FTA TEST

	A. *26 Patients With Reactive CSF FTA Test and Clinical Evaluations Consistent With Late Neurosyphilis*	B. *30 Patients With Reactive CSF FTA Test and No Clinical Findings Suggesting Late Neurosyphilis*
Reactive serum RPR	85% (22/26)	3% (1/30)
Reactive serum FTA-ABS	100% (24/24)	8% (1/12)
CSF total protein greater than 100 mg/dl	0% (0/26)	63% (19/30)
CSF white cell count less than 10/cmm	77% (20/26)	69% (18/26)
CSF red cell count greater than 1000/cmm	11% (3/26)	23% (6/26)

None of the other 29 patients with false-positive reactive CSF FTA test results had reactive serum RPR or reactive serum FTA-ABS tests. Nineteen of these patients' conditions were diagnosed as intracranial neoplasm, intracranial hemorrhage or encephalitis; all had markedly elevated CSF protein levels. The ten remaining patients had herniated intervertebral discs, spondylolisthesis or vertebral arthritis.

CSF FTA tests results on sequential CSF specimens from three patients with progressing intracranial neoplasms demonstrated the development of false-positive reactive results as the total protein level rose during the course of the disease. Preliminary spiking and dilution studies performed in our laboratory pinpoint the critical total protein level at approximately 125 mg/dl. Conversely, late neurosyphilis is most commonly associated with CSF total protein levels less than 100 mg/dl.[5, 8]

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Reprints: John H. Rippey, M.D.
St. Luke's Hospital Laboratory
Wornall Rd. at 44th
Kansas City, MO 64111

Pregnancy and Liver Disease

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tient survived. There was some question about the fact that she might have had severe hepatitis without fatty change, but the relatively modest elevation of transaminase, reflective of minimal hepatic inflammation, argues against that diagnosis.

The last case is unique, being the first hepatic failure due to Cytomegalovirus hepatitis. Ordinarily, this disease features only minor, if any, hepatic abnormalities, and directs its major peripartum morbidity to the newborn as microcephaly, mental retardation, deafness and other congenital chemical and anatomical abnormalities.

Hepatitis, in general, has not been viewed as particularly dangerous in pregnancy.[13] An Indian series found a significant number of cases of severe episodes in the third trimester and speculated that suboptimal maternal nutrition might have been a contributing factor.[14] In this country, however, such severe illnesses are, indeed, unique.

Conclusion

Five patients who suffered with liver disease during pregnancy have been described. They were managed with reasonable success in a community hospital setting. Literature is sparse on this subject, and experience is infrequent. Hopefully, our experience will be a guide to our colleagues who are faced with these difficult patients.

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> We all get about the same amount of ice. The rich get it in summer. The poor get it in winter.
>
> *—Ascribed to Bat Masterson*
> *Circa, 1900*

ELEANOR SMITH, R.D. *and*
STEPHEN HAMBURGER, M.D., *Kansas City*

Diabetes and Fiber

A Review

DIABETES MELLITUS AND FIBER, long known as separate entities in nutrition, have been linked together in this decade by the theory that fiber plays a therapeutic role in diabetic therapy.

Epidemiological studies first implicated fiber deficiency as a causative factor in chronic disease such as diabetes, obesity and cardiovascular disease.[1-3] Dietary fiber then became a prophylaxis or cure for these disorders. Initially, clinical evidence for these claims was lacking. However, investigators have recently demonstrated improved glucose tolerance and diabetic control when fiber was added to the diet of diabetics.

Following a brief history of fiber and diabetes, this article presents a review of the types and physiological effects of fiber as well as results of clinical trials with fiber in diabetes treatment. Practical implications of these data will be addressed.

HISTORY

Himsworth first associated fiber with diabetes by studying the correlation between decreased diabetic mortality rates and increased fiber consumption in England during World Wars I and II.[4] Cleave advanced the "Saccharine Disease" hypothesis by explaining that poor adaptation to fiber-depleted diets played a role in the development of diseases common to civilized nations: namely, diabetes, obesity and heart disease.[5] Trowell, using data from human and animal studies, proposed the dietary fiber theory of the etiology of diabetes stating that fiber-depleted diets are a causative factor in the development of diabetes.[6, 7]

In addition to a history of fiber and diabetes, this article presents a review of the types and physiological effects of fiber as well as results of clinical trials with fiber in treatment of diabetes. Current evidence recommends high carbohydrate, high-fiber diets plus patient education and physician supervision as optimal therapy for selected diabetic patients.

Ms. Smith is a Registered Dietician, Truman Medical Center, and Dr. Hamburger is Chairman, Department of Medicine, University of Missouri-Kansas City School of Medicine.

Pomare implicated changes in the composition of Western diets with the increased incidence of diabetes in this century.[8] Their changes include decreased consumption of complex fiber containing carbohydrates and increased consumption of simple carbohydrates.[3, 9] Although epidemiological evidence alone does not prove a relationship between diabetes and fiber intake, these studies serve as a background and direction for further research.

DEFINITION

Fiber is a diverse class of plant components with varying structures, chemistries and physiological properties.[1, 10-13] Fiber is found primarily as a structural component of the plant cell wall or in association with other cell functions including energy storage.[11, 14] Increased interest in fiber has created a need for a more precise definition and analysis of plant fibers. Consequently, new methods have been developed to measure the fiber content of food.[10, 15-17] Thorough discussions of the chemistry and extraction of plant fibers are available.[11, 15, 17]

Crude fiber is defined as the "residue of plant food left after sequential extraction with solvent, dilute acid and dilute alkali."[7] Values for crude fiber, used for many years in fiber research, underestimate the total fiber content of foods but were the only measurement easily obtainable until recently.[5, 7, 13, 16, 18]

Dietary fiber is the part of plants' resistant to digestion and absorption by the enyzmes of the human small intestine.[9, 10, 13, 14, 19] Values for dietary fiber now available more accurately represent the total fiber content of foods.[16, 19-21] The types and characteristics of dietary fiber are described in Table 1.

TABLE 1
DIETARY FIBER: TYPES AND CHARACTERISTICS

Fiber	*Description*	*Composition*	*$H2_2O$ Sol.*	*Physiological Effects*	*Food Source*
Cellulose	Unbranched, polysaccharide most common fiber in plant cell wall	Glucose polymer	No	Absorbs water and swells; decreases transit time	Grains, Fruits and vegetables
Hemicellulose	Diverse class of compounds associated with cellulose in plant cell walls	Hexoses and pentoses such as xylose, mannase and galactase	No	Good water holding capacity; may bind cations, metabolized to short C1	Grains and vegetables
Lignin	Noncarbohydrate polymer in cell walls of mature plants	Phenylpropane units	No	Very resistent to bacterial degradation binds organic substances such as bile acids	Grains, fruits and vegetables
Pectin	Branched, polysaccharide in plant cell walls	Galacturonic acid, xylose, arabinase	Yes	Large water holding capacity-forms gets in S.I. Bends cations and organic substances. Digested by bacteria.	Fruits
Gums & Mucilages	Serve specialized functions within cells — not component of cell walls	Varied—included uronic acid	Yes	Gel-forming and other properties similar to pectin	
Storage	Polymers used for energy. Storage within plant cells	Varied	Yes	Significant water hold-capacity and gel formation. Other properties similar to pectin.	Legun and guar

* Guar is a fiber used extensively in diabetic and fiber research. Information compiled from several references. 10, 11, 13-14, 18-22.

PHYSIOLOGY

Much still remains to be discovered about the physiological effects of dietary fiber in the human body. Certain physiological actions of fiber may enhance glucose and lipid metabolism making high-fiber diets of potential benefit in diabetes therapy. Some of these effects are described below:

Fiber alters intestinal transit time.[14, 15, 22] Insoluble fibers (cellulose, bran) decrease transit time, possibly preventing or delaying the digestion and absorption of food in the small intestine.[13-14, 23] Soluble fibers (guar, pectin) absorb water and form gels in the gut increasing transit time by delaying gastric emptying.[14, 18]

Most fibers absorb water and swell.[10, 11, 13-15, 22] Water soluble fibers absorb large amounts of water forming viscous gels in the stomach and small intestine.[14, 18, 22, 24] These gels form filtration systems that may alter the chemical activity of digestive enzymes or act as a barrier between enzymes and substrate slowing nutrient digestion and asorption. Gels also slow absorption by delaying substrate movement toward the absorptive mucosal surface.[14, 18, 22, 24]

Although dietary fiber is not digested by human enzymes, all fibers except lignin are at least partially digested by bacteria in the colon.[10, 12, 14, 15] Products of bacterial digestion include methane, CO_2, water, and volatile fatty acids (VFA). Evidence suggests that varying amounts of VFA are absorbed and used as an energy source.[11, 12]

Increased amounts of fiber in the gut decrease digestibility of nutrients resulting in increased nitrogen and fat excretion. Increased energy losses in the stool may play a role in weight reduction. However, the absorption of VFAs as an energy source may offset these energy losses.[11, 14, 15, 22]

Fibers can bind and increase the excretion of other substances by the body. Bile salts and acids are bound by fiber: increased loss of bile salts is thought to contribute to lower serum cholesterol levels.[10-12, 14, 18, 22] Loss of cations chelated to fiber may lead to certain mineral deficiencies and is a potential hazard in the use of high fiber diets.[11, 14, 15, 18, 22]

CLINICAL TRIALS

In clinical trials, dietary fiber alters glucose and lipid metabolism. Three general types of fiber are used in these trials: purified soluble fibers, purified insoluble fibers and intact fiber from normally available foods. Studies examining fiber's effects on glucose and lipid metabolism, especially in diabetes, are reviewed below.

Purified soluble fibers (guar and pectin) improve carbohydrate metabolism in normal and diabetic individuals. Serum glucose and, sometimes, insulin responses to carbohydrate in diabetics are lowered by guar and pectin supplements. Noninsulin-dependent diabetics receiving 9 gm to 10 gm of guar and/or pectin in an oral glucose load exhibited a decreased glucose response, a flattened glucose curve and delayed glucose peak. No significant change occurred in postprandial insulin response.[25, 26]

In two studies, both glucose and insulin responses were lowered in diabetics receiving a test meal supplemented with a total of 26 gm of guar and pectin. Glucose response fell 30% in insulin-dependent diabetes and from 30% to 60% in noninsulin-dependent diabetics also exhibited a 42% to 60% decrease in insulin response.[27, 28]

In these studies, glucose responses fell in all diabetics receiving guar and pectin. However, insulin response dropped in only those diabetics receiving 26 gm of fiber rather than 9 gm to 10 gms, suggesting a dose-related effect.[25-28]

Mechanisms for improving diabetic control are thought to be related to the gel-forming properties of guar and pectin as previously discussed.[24] Jenkins *et al* correlated improvements in glucose response with the viscosity or gel-forming ability of fibers.[29] The possibility of glucose malabsorption as a cause of decreased postprandial glucose response was ruled out by breath hydrogen tests.[30, 31]

Decreased glucose responses accompanied by decreased insulin responses in some studies suggests that soluble fibers may also enhance insulin sensitivity.[27, 28] Progressive improvements in lowered fasting blood glucose levels, urinary glucose losses and insulin requirements have also been noted with the use of water soluble fibers.[32-34]

Palatability and availability are two potentially limiting factors in the use of purified fiber supplements. Guar hydrates rapidly in liquids to form a highly viscous solution. The manufacture of guar crispbread has improved guar's acceptability to diabetics and studies are underway to develop acceptable guar-containing food products.[35]

Results of studies utilizing purified insoluble fibers such as cellulose and bran are less striking and clear-cut. Wheat bran and methylcellulose added to a glucose load enhanced glucose tolerance in normal individuals.[29, 36] Cellulose added to an oral glucose load improved glucose tolerance in noninsulin-dependent diabetics by slowing the rate of glucose rise and lowering the glucose peak. Insulin response did not change significantly.[26] Normal individuals consuming one of several insoluble fibers for 28 to 30 days showed significant improvements to a glucose tolerance test. Fiber was not added to the glucose load, suggesting a long-term adaptive effect with insoluble fibers possibly due to sustained changes in gut physiology or glucose metabolism.[37]

The effects of low-carbohydrate (42%) diets high in insoluble fiber in insulin requiring diabetics were studied by Miranda *et al*.[38] Increased insoluble fiber resulted in significantly decreased mean glucose levels (169 mg/dl to 120 mg/dl) and more frequent insulin reactions. Kiehm *et al* examined the effects of high-carbohydrate (75%) diets high in insoluble fiber on diabetic patients receiving sulfonylureas, less than 30 units of insulin or between 40 to 55 units of insulin.[2]

Those individuals receiving less than 30 units of insulin or on sulfonylureas experiencied significant decreases in fasting blood glucose levels and nine out of ten patients were able to discontinue insulin or oral agents. The lack of improvement noted in diabetics taking 40 to 55 units of insulin led the investigators to theorize that fiber or carbohydrate mediated improvements in glucose metabolism may require the availability of some endogenous insulin.[2]

Mechanisms of action of insoluble fibers on glucose metabolism are unclear, but they may be related to decreased intestinal transit time and possibly decreased glucose absorption. Decreased glucose absorption should result in increased energy losses in the stool. However, no weight loss or symptoms of malabsorption were noted by Keihm or Miranda.[2, 38]

Instead of supplementing a diet with purified fibers, some investigators have modified traditional diabetic diets to contain increased amounts of fiber from normal foodstuffs. Many of these diets are also higher in carbohydrate than traditional diabetic diets.

Decreased glucose and insulin responses or insulin requirements have occurred in normal and diabetic individuals on high-fiber diets.[39-41] Anderson *et al* have developed high-carbohydrate, high-fiber (HCF) diets that have been very successful in improving diabetic control. These diets contain 75% carbohydrate and 35 gm dietary fiber per 1,000 kcal. Both insulin-and noninsulin-dependent diabetics placed on HCF diets for 16 to 18 days experienced significant decreases in fasting and postprandial glucose concentrations.

A majority of patients were able to decrease significantly or discontinue insulin or sulfonylurea therapy.[42, 43] Individuals electing to follow HCF maintenance diets (60% carbohydrate) for 15 to 21 months have experienced further decreases in fasting blood glucose and decreases in or discontinuation of hypoglycemic medications.[43, 44] Fasting blood glucose was improved and insulin or sulfonylureas dosages decreased or discontinued in 18 of 21 obese diabetics following low-calorie HCF diets. The greatest reduction in glucose levels and insulin doses occurred in patients with the greatest weight loss.[45]

Simpson *et al* measured basal glucose and free insulin levels in noninsulin-dependent and insulin-dependent diabetics placed on diets containing 60% carbohydrate for six weeks. Although not designed to be in high fiber, the foods selected to increase carbohydrate content of the diet (cereals and tuberous vegetables) contained appreciable amounts of fiber. Basal glucose and insulin levels were decreased in both groups and insulin doses lowered slightly.[46, 47]

Clinical Results

Results of the above studies suggest that diets high in fiber from normal foodstuffs improve blood glucose control and, in many cases, insulin sensitivity in diabetic patients.[48, 49] Beneficial effects occurred in diabetics on a variety of regimens with the least significant improvements occurring in insulin-dependent diabetics on higher insulin doses.[14, 31] Possible mechanisms of action for these diets probably relate to the combined effects of soluble and insoluble fibers as well as slower digestion of carbohydrates "packaged" in intact plant cell walls.[41] Carbohydrate content of these diets varied from 40% to 75%. Several investigators have demonstrated greater improvements in glucose metabolism in high-fiber diets that are higher in carbohydrate.[50-52] High-carbohydrate, high-fiber diets are usually low in fat that may further enhance their glucose lowering effects.[53] The effects of fiber are dose-related with higher levels more effective in improving parameters of glucose control.[14, 27, 28, 50] Fiber-mediated changes in glucose control show progressive improvement over time.[41, 43]

Some difficulty in interpreting these studies arises from the use of a variety of parameters of glucose control such as mean, fasting, basal, preprandial, postprandial and urinary glucose. Further research would be more easily interpreted if standard parameters of glucose control were determined and consistently used. More research is needed for the long-term and systemic effects of fiber as well as their practicality and acceptability in large populations of diabetics. The benefits of mixed or normal food fibers vs purified fibers also merit more investigation.

Atherosclerotic heart disease, a major cause of death in American diabetics, has also been associated with a lack of dietary fiber. Epidemiological evidence includes population studies describing an inverse relationship between serum cholesterol and complex carbohydrate in the diet.[54] Serum cholesterol decreased when sugar was replaced by starchy foods such as vegetables, fruits and legumes.[55] Extensive reviews of the effects of fiber on lipid metabolism and atherosclerosis are available.[13, 56-56]

Cholesterol and triglyceride levels are often elevated in diabetics. Some types of fiber have been shown to decrease serum lipids. A brief discussion of studies measuring the effects of fiber on serum lipids follows.

Water solubility parallels the effectiveness of purified fibers in lowering serum cholesterol. Pectin and guar, water soluble fibers, have decreased serum cholesterol in animals and humans while cellulose and bran, insoluble fibers, had no significant effect on serum cholesterol.[13, 59, 60] Jenkins *et al* supplemented the diets of normal individuals with 36 gm of guar, pectin or wheat bran for two weeks. Both pectin and guar caused a significant drop in serum cholesterol; wheat bran caused an insignificant rise in serum cholesterol.[23]

High-fiber diets utilizing fiber from normal foodstuffs as opposed to purified fibers have been the most successful in lowering serum lipids. High-fiber diets have resulted in decreased serum cholesterol levels in both normal and diabetic adults.[39] Anderson *et al* placed 20 lean insulin-dependent diabetics on HCF diets for 16 days. Serum cholesterol decreased from a mean of 206 mg/dl to 147 mg/dl; serum triglycerides did not change.[42] Obese diabetics following HCF weight reducing diets at home showed significant decreases in serum triglycerides and cholesterol. The decrease in triglycerides may be due, at least in part, to weight loss in these patients.[45]

Several recent studies have demonstrated drastic decreases in serum triglyceride in diabetics on high-fiber diets.[43, 53] In one study, Anderson *et al* measured lipid responses in ten diabetics on HCF diets with 70% carbohydrate for 18 days. These patients followed 60% carbohydrate HCF diets at home for a mean of 15 months. Serum triglycerides dropped from 220 mg/dl to 168 mg/dl on the HCF diet and continued to fall to 126 mg/dl on the maintenance diets.[43]

Rivellese *et al* have performed the most detailed study of the effects of fiber on serum lipoproteins in diabetes.[48] Control diets of 53% carbohydrate, low-fiber (Diet A) high-fiber diets (Diet B) and 42% carbohydrate, low-fiber diets (Diet C) were used for ten-day periods. Total and LDL cholesterol and total VLDL triglycerides decreased significantly in patients on Diet B. The authors conclude that fiber lowers both total and LDL cholesterol and total and VLDL triglycerides. Subjects in this study had normal or only slightly elevated serum lipids. Rivellese *et al* postulated that more striking results may be obtained in hyperlipemic patients.[48] The effect of high fiber diets on lipoprotein patterns promises to be a fruitful area for more research.

Soluble fiber supplements and diets high in fiber-rich foods lower serum lipids. A mechanism of action for decreases in serum cholesterol may be related to the ability of certain fibers to bind bile salts.[10-12, 14, 18, 22] When the percentages of dietary carbohydrate and fat are altered, improvement in serum lipids may result not only from increased dietary fiber but also from concurrent decreases in total fat intake or modifications in type of fat.[39, 46, 47]

Before adopting high-fiber diets as a permanent adjunct to diabetic therapy, potentially adverse effects of fiber should be evaluated. Increased intakes of fiber may cause gastrointestinal discomfort including abdominal fullness, flatulence and loose stools.[14, 61, 62] Most of these symptoms subside with time although increased flatulence may persist. More serious complications that may occur are bezoars and volvulus of the small intestine.[62]

Potential vitamin and mineral deficiencies from high fiber diets are a major concern. Several studies in which fiber intake was increased showed negative balances and increased excretion or decreased absorption of calcium, zinc, magnesium, folate and iron.[12, 62] Many of these studies were short-term, and adaptation with serum vitamin and mineral levels returning to normal may occur over longer periods of time. Jenkins *et al* found no evidence of zinc, calcium or copper deficiencies in diabetics consuming 20 gm of guar for more than six months.[63] Anderson *et al* have reported normal levels of calcium, phosphorous, iron, magnesium, folic acid and vitamin B_{12} in 15 diabetics after high-fiber diets for an average of 21 months.[44] Similar results were noted in normal individuals.[64] These preliminary findings are encouraging, but more detailed research on the effects of fiber on vitamin and mineral status are indicated.

Another possible hazard of high-fiber diets is that the increased carbohydrate content of the diet may elevate serum triglycerides. However, the reverse is often true since several studies have demonstrated significant decreases in serum triglycerides with high fiber, 60% to 70% carbohydrate diets.[43, 53, 65, 66]

Diet modification plays a central role in diabetes therapy. In the above studies, high-fiber diets resulted in improved tolerance and, in many cases, decreased serum lipids in diabetes. Although more research is needed, available evidence suggests the use of high-fiber diets. These diets were most effective in diabetics taking less than 30 units of insulin, noninsulin-dependent diabetics with or without sulfonylurea therapy, obese diabetics and individuals with hyperlipidemias.[22, 27, 31, 53] Obesity is a significant problem for many diabetics. Dietary fiber may aid in weight control by slowing the rate of food ingestion and inducing satiety while decreasing the caloric density of the diet.[45, 67-69]

Purified fibers, such as guar and pectin, have been effective in improving diabetic control but are not readily available, thus making fiber from normal foods more practical for widespread use. An optimal carbohydrate level has not been established but beneficial results have been obtained in studies utilizing 40% to 75% carbohydrate diets.[48, 50-52, 70] Carbohydrate levels between 50% and 60% of calories are generally acceptable, aid in improving glucose tolerance and are consistent with the recommendations of the American Diabetes Association.[50, 51, 70, 71] The remainder of the diet should consist of 15% to 20% protein and 20% to 30% fat.[60, 71]

An optimal fiber level also remains to be established. Studies using purified fibers are most successful with levels of 25 gm to 36 gm per day.[23, 27, 28] Anderson *et al* recommend 25 gm to 35 gm dietary fiber per 1,000 calories or about 50 gm per day.[22, 50] Recommendations refer to dietary, not crude, fiber.

Traditional diabetic exchanges do not account for the fiber content of foods. Anderson *et al* have developed exchange lists modified for high-fiber diets as well as professional and patient guides to high-carbohydrate, high-fiber diets.[72-75] Table 2 shows the composition of high fiber exchange lists. Recipes and information on the dietary fiber content of foods are available as professional tools and for patients adopting high-fiber diets.[19-21, 72, 73]

High-fiber diets include generous amounts of whole grain breads, crackers and cereals, legumes, raw and cooked vegetables and fresh fruits. Meat, fats, dairy products, fruit juices and refined cereal products are low in fiber and are restricted. Table 3 illustrates the differences in fiber content of 1,800 calorie diabetic diets achieved by careful food selection.

A high-fiber diet may be implemented by several methods. Patients placed on 75% carbohydrate high-fiber diets under close supervision in a metabolic ward experience dramatic decreases in insulin doses and glucose levels. Intensive diet counseling can be initiated during this period. Patients are able to maintain improvements in diabetic control at home on 60% carbohydrate, high-fiber diets. Similar improvements in diabetic control occur at a much slower rate in patients placed on 60% carbohydrate, high-fiber diets.[50]

Dietary fiber may be gradually increased to help minimize gastrointestinal side effects. Im-

TABLE 2
COMPOSITION OF HIGH FIBER EXCHANGE LISTS

	Carbohydrate (gms)	*Protein (gms)*	*Fat (gms)*	*Fiber (gms)*	*Energy (kcal)*
Milk	12	8	0	0	80
A veg	2	1	0	2	13
B veg	4	2	0	2	26
C veg	16	2	0	3	75
Beans	21	9	1	4	125
Cereal*	30	6	2	10	160
Bread*	10	2	1	2	55
Fruit	10	0	0	2	40
Meat	0	9	2	0	55
Fat	0	0	5	0	45

* Breads and cereals are whole grain. Adapted from High Carbohydrate High Fiber Handbook by Anderson, et al.[72, 73]

TABLE 3
SAMPLE MENUS: 1,800 CALORIE DIETS USING HIGH AND LOW FIBER FOODS*

Meal Plan	*Low Fiber Menu*	*g Fiber 23.9*	*High Fiber Menu*	*g Fiber 47.4*
BREAKFAST:				
Milk Exchange — 1	1 Cup skim milk	—	1 Cup skim milk	—
Fruit Exchange — 1	½ Cup orange juice	0.3	1 fresh orange	1.9
Bread Exchanges — 3	½ Cup farina	0.6	½ Cup rolled oats	4.5
	2 slices white bread	1.3	2 slices whole wheat bread	4.7
Fat Exchange — 1	1 pat margarine	—	1 pat margarine	—
LUNCH:				
Meat Exchange — 2	2 oz. baked chicken	—	2 oz. baked chicken	—
Bread Exchange — 4	1 Cup white rice	0.4	1 Cup brown rice	1.2
	2 slices white bread	1.3	2 slices whole wheat bread	4.7
Vegetable Exchanges — 3	1 Cup green beans	2.3	½ Cup each: broccoli	1.6
	1 sliced tomato — medium	1.4	carrots	1.4
			cauliflower	1.2
Fruit Exchange — 1	½ banana	0.9	½ medium pear	1.4
SUPPER:				
Meat Exchange — 3	3 oz. hamburger patty	—	3 oz. lean pork	—
	Hamburger roll	1.3	1 Cup white beans	3.8
Bread Exchange — 4	1 small boiled potato	2.6	1 slice whole wheat bread	2.3
	2 graham cracker squares	1.5	1 bran muffin	3.9
Fruit Exchange — 1	¾ cup each: spinach	3.5	¾ Cup each: spinach	3.5
	summer squash	2.2	cabbage	2.8
	½ Cup unsweetened applesauce	1.5	1 fresh apple	2.7
Fat Exchange — 1	1 pat margarine	—	1 pat margarine	—
SNACK:				
Meat Exchange — 1	¼ Cup lowfat cottage cheese	—	¼ Cup lowfat cottage cheese	—
Bread Exchange — 1	6 saltine crackers	0.7	2 RyKrisp crackers	2.3
Vegetable Exchange — 1	1 medium carrot	2.1	1 medium carrot	2.1
Fruit Exchange — 1	½ Cup cranberry juice	—	½ medium pear	1.4

* TOTAL fiber content of foods calculated from values of Anderson, et al.[72, 73]

provements in glucose control occur at correspondingly slower rates. Major changes in the fiber content of diets for diabetics should be accompanied by thorough patient education and close physician monitoring to adjust insulin doses and minimize hypoglycemic episodes.[22, 50, 72]

SUMMARY

The effectiveness of dietary fiber in improving diabetic control does not obviate the necessity of other dietary modifications. Studies demonstrating significant improvements in diabetic control utilized fiber in the context of a well-planned diabetic diet.[33, 45-48] When the rest of the diet was not controlled, dietary fiber had minimal effects on diabetic control. Effective patient education and compliance are central to successful diet therapy. Patients who elect to follow high-fiber diabetic diets require instructions on the rationale of the diet, expected benefits and possible side effects.[9] Compliance is enhanced by providing adequate follow-up and encouragement, especially during the initial phases of the diet.

Clinical trials utilizing increased amounts of dietary fiber in diabetics have resulted in lower serum glucose and lipid levels and decreased insulin requirements. Purified fiber supplements are not generally available, but high-fiber diets containing 50% to 60% carbohydrate have been effective in improving diabetic control. Research further delineating the physiological effects of fiber on glucose and lipid metabolism and investigating the long-term effects of dietary fiber are underway. Current evidence recommends high carbohydrate, high-fiber diets accompanied by patient education and physician supervision as optimal therapy for selected diabetics.

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(Continued on page 84)

MARK EPSTEIN, M.D., RICHARD KING, M.D.
and DOUGLAS KENNEY, M.D., *Kansas City and Clinton*

Splenic Rupture at Term

Case Report

A 24-YEAR-OLD WHITE, married woman was admitted while in hypovolemic shock. Previously, she had been healthy and had had normal, spontaneous vaginal deliveries. She was not receiving any medication.

Two days prior to admission, the patient came to the physician's office with vague pain in her left shoulder. On the day of admission, she was evaluated because of increasing discomfort in her left shoulder and left upper quadrant abdominal pain. Initially, the patient looked quite well. Nearing the completion of the office visit, however, she bacame acutely hypotensive, pale and cool, and she exhibited a marked degree of tachycardia. Fetal heart tones that initially were normal were no longer audible.

The patient was transferred to the hospital where immediate surgical consultation was obtained. Supplemental intravenous access was established and she was taken to the operating room with a diagnosis of "intraabdominal catastrophe, probable ruptured uterus." Type O positive blood (uncrossed) and crystalloid were administered.

Within 40 minutes of onset of shock, the patient had been prepared for surgery, and a low vertical midline incision was made. The abdomen contained approximately 2L of blood. No rupture in the uterus was detectable, but there was a large tear in the lateral aspect of the spleen, some organization grossly apparent. Manual control of the splenic pedicule was obtained, and the infant was delivered by cesarean section.

Splenectomy was then performed while resuscitation continued. A small piece of splenic tissue was left in place. A total of 6 units of blood and 14 Ls of crystaloid were administered. Apgar score initially was 1; at five minutes, some seizure activity was noted and Apgar was 4. The neonate was transferred to Children's Mercy Hospital and the mother was stable in recovery.

The pathology report on the spleen verified a subcapsular hematoma with recent laceration and massive hemorrhage. No evidence of other pathology or antecedent trauma could be identified.

On examination one month later, both mother and child were doing quite well. The child is to be observed carefully for sequela from the fetal distress.

DISCUSSION

Splenic rupture during pregnancy is a rare occurrence, but it has been reported as early as 1803. Maternal mortality is quite significant and ranges from approximately 30% to 75% in the general literature.[1-3] Less well assessed is the significant fetal and neonatal mortality and morbidity[2, 3] that result from the fetal distress.

Cause is classified as traumatic or spontaneous. While traumatic rupture or laceration may be diagnosed in a more straightforward manner, the spontaneous rupture requires a high index of suspicion and consideration of associated disease as mononucleous, leukemia, sarcoid, amyloidosis and others.

The highest incidence of rupture occurs during the last trimester of pregnancy. More often than not, the patients are multiparous.

This case illustrates that with rapid surgical intervention, a patient and child may be saved even in the event of a massive splenic hemorrhage.

Although the patient had an antecedent history consistent with a splenic pathological condition, the correct preoperative diagnosis was not necessary. Signs and symptoms of splenic injury may or may not be spectacular, and the catastrophe may occur between two to six days after complaints are first noticed. This happened with our patient, who had pain in her left shoulder and pain in the left upper quadrant initiating some three days before surgery. Results of blood studies were noncontributory. Results of a mononucleosis spot test were negative. Chest x-ray was normal and no associated disease was ascertained. No pre-

Splenic rupture, as with splenic artery aneurysm rupture (which is more common) or even uterine rupture, requires immediate recognition of the surgical nature of the condition and prompt surgical therapy. Correct preoperative diagnosis is not essential.

Dr. Epstein is from the Department of Surgery, Truman Medical Center, Kansas City. Dr. King is Attending Surgeon and Dr. Kenney is Attendant in Family Practice, Golden Valley Hospital, Clinton.

vious history of trauma could be identified although some believe so-called "idiopathic rupture" might be secondary to sneezing, straining or labor contractions, especially in a patient who was within days of her estimated date of confinement.

Splenic rupture as with splenic artery aneurysm rupture (which is more common) or even uterine rupture require immediate recognition of the surgical nature of the condition and prompt surgical therapy. Correct preoperative diagnosis is not essential.

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Diabetes and Fiber

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Overdue Accounts can be collected by telephone if the physician's staff knows the techniques that are demonstrated in a listen-and-learn audiocassette called AMA Medical Collection Study Course ($30). The techniques are similar to those used by professional collection agencies, but the course emphasizes the importance of tact and courtesy. Another listen-and-learn course, Handling Patient Calls Effectively ($25), demonstrates general telephone etiquette and tactics in dealing with irate patients, requests for medical information, and emergencies. Both audiocasettes are available from the AMA Order Department, P.O. Box 821, Monroe, WI 53566.

President's Message

MSMA Looks Ahead

"Most of us are so busy doing the urgent things that we don't have time for the important things."

This principle can be applied to the MSMA.

On August 21-22, 1982, 35 members of the Missouri State Medical Association, consisting of the Planning Committee and Council of the MSMA, met in the initial goal-setting and planning workshop conducted by Mr. David R. Bywaters, president of Lawrence-Leiter and Company, Management Consultants. In three one-half day sessions, the group developed a profile of the current strength and problems of the Association with development of some tentative avenues of activity.

The second session was held on November 13-14, 1982. This group of 15 members was made up of selected physicians from the Planning Committee and the Council of MSMA. In a more detailed protocol, the current status of the MSMA and its objectives were assessed. Ultimately, a method of procedures with a timetable for each was developed. Those attending these meetings worked hard. The process required considerable effort.

John I. Matthews, M.D.

As a result of the planning seminars, several resolutions have been presented by the Council and are in your Handbook for the Annual Convention. They cover a variety of subjects of current concern to the Association. It is intended that additional resolutions from this source will be produced in the next two or three years.

An annual review of this material is intended until another evaluation of this kind is undertaken. In my opinion, a long-term planning effort will be needed by the Association at least once every five years. It should become a scheduled event in the life of the organization.

Your MSMA-Sponsored Insurance Programs

These Programs are especially designed for MSMA members' protection needs.

• *Personal Disability Income*

Benefits are available up to $2,166 per month. Life Time Accident/to Age 65 Sickness Coverage — flexible waiting periods available from seven days up to one year — the plan is applicable for the Individual or Incorporated Physician. Coverage for private flying is available.

This individual contract with Special Renewal Guarantees is the ideal foundation for your Disability Income Protection Program.

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Disability Insurance Coverage up to $10,000 per month to pay your continuing office expenses while you are unable to work due to illness or injury. Benefits are payable after 30 days continuous disability with a maximum benefit period of 24 months.

Your premium is a tax-deductible business expense — your individual contract has Special Renewal Guarantees — benefits may be assigned to your corporation.

• *Accidental Death and Dismemberment*

Up to $150,000, 24-hour worldwide coverage while at work or play — including permanent total disability benefit. Coverage on spouse and children available — also your employees. No medical history required — low group cost.

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Pays you a Cash Benefit for each day of hospital confinement due to injury or illness. . . . Pays *in addition to* other insurance you may have . . . your choice of amount $20.00 to $100.00 Daily Benefit. Family coverage available.

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MSMA Auxiliary

"Take Time to Serve Others — It Is Your Gift To Life"

MSMAA Convention Theme

Financial Planning and Time Management Will Be Convention Seminar Topics

The Annual Convention of the Missouri State Medical Association Auxiliary at Tan-Tar-A Resort on March 17-20 will feature some added attractions. On Friday afternoon (March 18), we are pleased to offer two workshops.

A seminar on "Women Better Know What's Going On In The Financial World" will be led by Susan E. Shepherd of Stifel, Nicolaus & Company of St. Louis. Mrs. Shepherd was president of the MSMAA in 1956. After being left a widow more than 20 years ago, she entered the business world and today is in the top 2% of the highest paid people in the USA. She was voted Missouri's top woman broker in 1980. She also is a frequent guest on TV and radio shows in St. Louis. Mrs. Shepherd will bring valuable information for both husband and wife. Please join us for this seminar.

Mrs. Sam Gaston
President

At 3 PM, David L. Schmidt, President and Management Consultant, Management Development Associates of Shawnee Mission, Kan., will present a workshop on "Time Management." Mr. Schmidt is a popular speaker for conferences, conventions and seminars. He led the Time Management Workshop at the AMA Auxiliary's Leadership Confluence in Chicago in October, 1982. He cleverly mixes humor, wit and wisdom in a fast-paced presentation that both delights and challenges his audience. I know you will enjoy his presentation.

The Auxiliary gratefully acknowledges the assistance of the MSMA in providing these special events. We extend a very special invitation to all MSMA members, spouses and guests to attend any portion of these presentations your schedule will allow.

Mrs. Donald C. Sanders, incoming president of the MSMAA, and Dr. Ronald A. Youmans, MSMA president-elect, both of Kansas City, will be honored by the Jackson County Medical Society and Auxiliary at a joint reception from 5:30 to 6:30 Thursday evening in the Parasol Room. Mrs. Sanders will be installed at the Auxiliary's Installation Luncheon at noon on Saturday.

The Auxiliary requests the honor of your presence at the Fifth Annual MSMF/AMA-ERF Benefit Auction that will begin with a Country Barbecue buffet at 6:30 PM on Thursday evening in the Windgate South Room. We believe that serving dinner prior to the auction will relieve "the hungries" as well as add to the purpose and fun of the evening. Please encourage your spouse to send in reservations for the buffet. If you will be attending alone, you may purchase a ticket at the registration desk. Also, please send or bring any item you wish to donate to the Auction and register it between 9 AM and 3 PM Thursday in Windgate South. Enjoy the fun and increase your tax deduction!

A Dutch Treat Dinner for all is scheduled for Friday evening. We will meet in the main lobby of Tan-Tar-A at 6:30 PM Everyone is invited.

The Public Affairs Breakfast is set for 7:30 Saturday morning in the Ballroom. The

(Continued on next page)

speakers will be Missouri Sen. Harriett Woods, 13th District, and Rep. Mary Kasten, 159th District. With the 98th Congress now in place, we are interested in the prognosis for the political health of the medical profession and, perhaps, we can better understand the importance of our AMPAC and MMPAC membership.

Mrs. John G. Bates of Cuthbert, Ga., president-elect of AMA Auxiliary, and Mrs. William D. Hughes of Montgomery, Ala., president of the Southern Medical Association Auxiliary will be our special guests during the convention. Mrs. A. J. Campbell of Sedalia and Mrs. Jerry Meyer of Concordia are the convention co-chairmen. We urge you to encourage your spouse to attend any or all of our sessions while at Tan-Tar-A.

We offer a warm welcome and a common bond of friendship to all who attend our events, whether or not you are a member.

Preliminary Program — 58th Annual Convention

MSMA AUXILIARY

Tan-Tar-A Resort, Osage Beach, Mo. **March 17-19, 1983**

Thursday, March 17

9:00 AM-3:00 PM Auction Items Check-in: Windgate South.
10:00 AM-4:00 PM **Registration and Information.** Windgate Foyer.
10:00 AM Auxiliary Report to the MSMA House of Delegates.
Mrs. Samuel L. Gaston, President, MSMA Auxiliary
12:00 Noon Finance Committee Meeting. President's Suite.
3:30 PM Pre-Convention Board Meeting, Windgate 76.
5:30 PM-6:30 PM Reception honoring Mrs. Donald C. Sanders, MSMA Auxiliary President-Elect and Dr. Ronald A. Youmans, MSMA President-Elect. Parasol Room.
6:30 PM Fifth Annual MSMA/AMA-ERF Benefit Auction, with Chuck-Wagon Buffet. Professional Auctioneers. Windgate South.

Friday, March 18

7:15-11:30 AM MSMA Complimentary Coffee and Rolls. Windgate North.
7:15 AM Past-Presidents' Breakfast. President's Suite.
8:00 AM-NOON Registration and Information. Windgate Foyer.
8:30 AM **General Assembly-Business Meeting.** Parasol Foyer.
Keynote Address: Mrs. John G. Bates, Cuthbert, Ga.
President-Elect of the AMA Auxiliary.
12:15 PM **Awards Luncheon.** Parasol Room.
2:00-4:00 PM Seminar on Financial Planning. Parasol Foyer.
"Women Had Better Know What's Going On in the Financial World" — Susan E. Shepherd, Vice-President, Stifel, Nicolaus & Company, Inc., Clayton
"Managing Time and Controlling Stress" — David L. Schmidt, president, Management Development Associates, Kansas City
6:30 PM Dutch Treat Dinner. Meet in Tan-Tar-A Main Lobby.
(Reservations Requested)

Saturday, March 19

7:30 AM Public Affairs Breakfast. Ballroom.
8:00 AM-NOON **Registration and Information.** Windgate Foyer.
9:00 AM **General Assembly — Workshop.** Parasol Foyer.
Greetings from Southern Medical Association, Mrs. William D. Hughes, Montgomery, Al., President.
12:00 NOON **Installation Luncheon.** Parasol Room.
2:00 PM Post-Convention Board Meeting. Parasol Foyer.
6:30 PM Social Hour with the MSMA. Parasol Room.
7:30 PM MSMA Annual Banquet. Windgate South.

Preliminary Program

MISSOURI STATE MEDICAL ASSOCIATION

125th Annual Convention

Tan-Tar-A, Lake of the Ozarks, Osage Beach

March 17-20, 1983

THURSDAY, MARCH 17

8:00 AM Registration of Delegates. Windgate Foyer.
10:30 AM **House of Delegates, Opening Session.** Windgate Center.
12:00 NOON Student Councilor District Luncheon. Windgate 70.
12:00 NOON Jackson County Medical Society Luncheon, Ballroom.
12:00 NOON St. Louis Metropolitan Medical Society Luncheon. Parasol Room.
1:00 PM Reference Committee Meetings.
Windgate 60-61.
Windgate 62-63.
Windgate 74-75.
Windgate 64.
5:30 PM Reception honoring MSMA President-Elect Ronald A. Youmans, M.D. and MSMA Auxiliary President-Elect, Mrs. Donald Sanders. Parasol Room.
6:00 PM Missouri State Surgical Society Board of Directors. Cocktails and Dinner. Parasol Foyer.
6:30 PM MSMA Auxiliary Fifth Annual Benefit Auction of the AMA-ERF and MSMF. Windgate South.

FRIDAY, MARCH 18

7:00 AM Councilor District Breakfasts.
7:45-
11:00 AM Complimentary Coffee and Rolls. Windgate North.
8:00 AM Registration. Windgate Foyer.
8:30 AM Missouri University Board of Directors. Breakfast and Meeting. Windgate 64.
9:00-
10:30 AM **General Program.** Windgate Center.
Introductions: John I. Matthews, M.D., Jefferson City, MSMA President
Speaker: Spence Meighan, M.D., Portland, Ore. "The Promised Land
Speaker: Harrison L. Rogers, Jr., M.D., Atlanta, Ga., Speaker, American Medical Association House of Delegates, "Current AMA Activities."
10:30 AM **Intermission to View Exhibits.**
10:30 AM MOMEDICO Board of Directors and Stockholders Meeting. Windgate 63.
11:00 AM Committee on the Impaired Physician Luncheon. Windgate 74.
11:00 AM-
12:30 PM *Clinical Cancer Research in the Community — A Panel Discussion*. Windgate 61.
Moderator: Virgil Loeb, Jr., M.D., St. Louis.
Sponsored by the American Cancer Society, Missouri Division, Inc.
11:00 AM-
12:30 PM *Scientific Program*. Windgate 71.
"Advances in Respiratory Failure"
Speaker: Roger C. Bone M.D., Professor of Medicine, Chief, Pulmonary Division, University of Arkansas School of Medicine, Little Rock.
Moderator: John Goheen, M.D., Kansas City.
Sponsored by the Missouri Thoracic Society.
11:00 AM-
12:30 PM *Trauma*. Windgate 75.

1. *"Initial Evaluation and Treatment of Major Trauma"*
   Speaker: Frank L. Mitchell, M.D., F.A.C.S., Director Trauma Service, University of Missouri-Columbia Hospital & Clinics; Professor of Surgery, University of Missouri-Columbia School of Medicine.
2. *"Recognition and Treatment of Urologic Injuries"*
   Speaker: Jack Moore, M.D., Ph.D., Assistant Clinical Professor of Urology, University of Missouri-Kansas City School of Medicine.
3. *"Trauma – Children Are Different"*
   Speaker: Mary Alice Helikson, M.D., Assistant Professor of Pediatric Surgery, University of Missouri-Columbia School of Medicine.

Sponsored by the Missouri State Surgical Society.

12:30 PM Jackson County Medical Society Luncheon. Drawing Room.
12:30 PM Missouri University Medical Alumni Luncheon. Windgate 72.
12:30 PM Missouri Thoracic Society Luncheon and Annual Meeting. Windgate 76.
1:00-
4:00 PM *"Update on Depression: New Findings and Medications."* Windgate 63.
Speaker: Sheldon H. Preskorn, M.D., Associate Professor of Psychiatry and Pharmacology, Director, Psychopharmacology Laboratory, University of Kansas, Department of Psychiatry, College of Health Sciences and Hospital, Kansas City, Kan.
Moderator: Nicola Y. Katf, M.D., Kansas City.
Sponsored by the Missouri Psychiatric Association and Pfizer-Roerig Division.
1:00-
4:00 PM *"Newer Aspects of Mycosis Fungoides."* Windgate 71.
Speaker: Loren E. Golitz, M.D., Associate Professor of Dermatology and Pathology, University of Colorado Health Sciences Center; Chief, Department of Dermatology, Denver General Hospital, Denver, Colo.
2:00 PM Panel Discussion: *"Common Skin Conditions."*
Panelists: Loren E. Golitz, M.D., Denver, Colo.; Ernest Lorenc, M.D., Springfield; Jerome M. Aronberg, M.D., Clayton; James A. Roller, M.D., Columbia; Thelda Kestenbaum, M.D., Kansas City.
3:00 PM *"Pediatric C.P.C."*
Speaker: Loren E. Golitz, M.D.
Moderator: Joe Duvall, M.D., St. Louis.
Sponsored by the Missouri Dermatological Society.
2:00-
3:30 PM 1. *"Biologic Basis of Treatment in Peritonitis."* Windgate 75.
Speaker: Richard Simmons, M.D., Professor of Surgery, University of Minnesota, Minneapolis, Minn.
2. *"Peritonitis in the Newborn."*
Speaker: Martin J. Bell, M.D., Associate Professor of Surgery, Division of Pediatric Surgery, Washington University School of Medicine, St. Louis.
Business Meeting immediately following Scientific Program.
Sponsored by the Missouri State Surgical Society.
2:00 PM St. Louis Metropolitan Medical Society Caucus. Ballroom.
2:30-
4:00 PM Missouri State Medical Foundation Annual Meeting. Windgate Center.
3:30 PM **Intermission to View Exhibits.**
4:00 PM **HOUSE OF DELEGATES, SECOND SESSION.** Windgate Center.
4:00 PM Missouri Dermatological Society Board Meeting. Windgate 71.
6:00 PM Reference Committee Meetings.
6:30 PM Missouri Psychiatric Association Business Meeting. Cocktails and Dinner, Drawing Room and Terrace.
6:30 PM Missouri State Surgical Society. Cocktails and Dinner. Windgate 72.
6:30 PM Missouri Society of Pathologists. Cocktails and Dinner. Parasol Room.
6:30 PM Missouri Society of Anesthesiologists. Cocktails and Dinner. Ballroom.
6:30 PM Missouri Dermatological Society. Cocktails and Dinner. Parasol Foyer.
7:00 PM Missouri Ophthalmological Society Board of Directors Meeting and Dinner. Windgate 76-77.

SATURDAY, MARCH 19

6:30-
7:30 AM Missouri Dermatological Society Board of Directors Breakfast. Windgate 64.
7:00 AM Councilor District #10 Breakfast. Windgate 76.
7:30 AM **MSMA Auxiliary Public Affairs Breakfast.** Ballroom.
7:30 AM Missouri Ear, Nose and Throat Association Breakfast and Business Meeting. Drawing Room.
7:30 AM Missouri Society of Anesthesiologists Breakfast for the Executive Committee. Windgate 70.
7:30 AM-
5:00 PM Fifty-Year Club. Suite 688-689.
7:30 AM-
5:00 PM American Academy of Dermatology Postgraduate Course. Windgate 74.
7:45-
11:00 AM Complimentary Coffee and Rolls. Windgate North.
8:00 AM Registration. Windgate Foyer.
8:00 AM Missouri Radiological Society Board of Directors Breakfast. Parasol Room.
8:30 AM-
12:00 NOON *"YAG Lasers."* Windgate 62.
Speaker: John D. Hunkeler, M.D., Clinical Associate Professor of Ophthalmolo-

gy, University of Kansas School of Medicine; Assistant Professor of Ophthalmology, University of Missouri-Kansas City.
Speaker: Robert C. Drews, M.D., Professor of Clinical Ophthalmology, Washington University School of Medicine, St. Louis.
Moderator: Harry L. S. Knopf, M.D., St. Louis.
Sponsored by the Missouri Ophthalmological Society, Inc.

9:00 AM-
10:30 PM *Scientific Program*. Sponsored by Physical Medicine and Rehabilitation. Windgate 61.

9:00 AM-
10:30 PM *Scientific Program*. Windgate 71.
"The Primary Prevention of Coronary Artery Disease; A Concept Whose Time Has Arrived"
Speaker: Brent M. Parker, M.D., Columbia.
Speaker: Richard H. Martin, M.D., Columbia.
"Exercise and the Heart."
Moderators: Ben D. McCallister, M.D., Kansas City; William C. Allen, M.D., Columbia
Sponsored by the American Heart Association. Missouri Affiliate, Inc.

9:00 AM-
10:30 PM *Scientific Program*. Windgate 75.
"Multi-Modality Therapy for Head and Neck Cancer"
"Management of Traumatic Nasal Deformities"
Speaker: Charles J. Krause, M.D., Professor and Chairman, Department of Head and Neck Surgery, University of Michigan School of Medicine, Ann Arbor.
Moderator: David C. Mechlin, M.D., Columbia.
Sponsored by the Missouri Ear, Nose and Throat Association.

9:00 AM-
12:00 NOON *Malpractice*. Windgate 72.
1. *"A Physician Looks at Malpractice."*
   Speaker: Brian Mohoney, M.D., LLB, Member of Johnson, Mahoney, Scott Law Firm, Denver, Colo.
2. *"Insurance Carrier Looks at Malpractice-Loss Prevention in Malpractice."*
   Speaker: Richard V. Bradley, M.D., President of MOMEDICO, Past-President of MSMA.
3. *"Malpractice and Outpatient Anesthesia."*
   Speaker: Robert Gibbons, M.D., Anesthesiologist, Surgicenter of Kansas City.
4. *Panel Discussion*
   Panelists: Brian Mohoney, M.D., LLB, Denver, Colo.
   Richard V. Bradley, M.D., St. Louis.
   Robert Gibbons, M.D., Kansas City.

Moderator: Robert E. Binda, M.D., Kansas City.
Sponsored by the Missouri Society of Anesthesiologists.

9:00-
11:30 AM *Scientific Program*. Sponsored by the Missouri OB-GYN Society. Suite G.

9:00 AM-
12:30 PM Missouri Chapter, American College of Emergency Physicians Business Meeting. Auditorium.

9:15-
11:30 AM *Scientific Program*. Sponsored by the Missouri Radiological Society. Windgate 60.

9:30 AM **Discuss the Issues With Your AMA Delegates.** Windgate 64.

10:30 AM **Intermission to View Exhibits.**

11:30 AM-
12:30 PM Missouri Radiological Society Membership Meeting. Windgate 60.

11:00 AM-
12:30 PM *"The Family as the Wellspring of Health; Research Findings and Clinical Implications."* Windgate 71.
Speaker: Michael A. Crouch, M.D., Assistant Professor, Department of Family and Community Medicine, University of Missouri-Columbia.
Moderator: William C. Allen, M.D., Columbia.
Sponsored by the Missouri Academy of Family Physicians.

11:00 AM-
12:30 PM *"Medical-Surgical Cost Containment in the 1980s*. Windgate 75.
Speaker: John Layle, M.D., Associate Clinical Professor of Medicine, University of Missouri-Kansas City School of Medicine.
"Competition — The Changing Face of the Medical Professon."
Sponsored by the Missouri State Surgical Society.

11:00 AM-
12:30 PM *Scientific Program*. Windgate 61.
"Blind Nailing of the Femur"
Speaker: Marion Harper, M.D., Department of Orthopaedic Surgery, University of Missouri-Columbia School of Medicine.
"Surgical Treatment of Rheumatoid Arthritis of the Hand"
Speaker: Hugh S. Harris, M.D., Columbia.
Sponsored by the Missouri State Orthopaedic Association.

11:30 AM-
1:00 PM Missouri OB-GYN Society Business Meeting. Suite G.

12:00 NOON American Medical Women's Association Luncheon. Drawing Room Terrace.

12:00 NOON Missouri State Neurosurgical Society Luncheon. Windgate 70.

12:00 NOON Physical Medicine and Rehabilitation Luncheon, Business and Board Meetings. Windgate 64.

12:00 NOON Missouri Ophthalmological Society, Inc. Luncheon. Windgate 76.

12:00 NOON Missouri Society of Anesthesiologists Luncheon and Business Meeting. Windgate South.

12:00 NOON American Academy of Dermatology Luncheon. Ballroom.

12:30-
1:30 PM Missouri Chapter, American College of Emergency Physicians Luncheon. Windgate Center.

1:00 PM Missouri OB-GYN Society Luncheon and Business Meeting. Windgate Center

1:30-
4:00 PM Missouri Ophthalmological Society, Inc. Meeting. Windgate 62.

1:30 PM **Missouri Medical Political Action Committee.** Windgate 63.

2:00-
3:30 PM *"Seven Ways to Live to be 100."* Windgate 71.
Speaker: Herschel R. Harter, M.D., Associate Professor of Medicine, Department of Internal Medicine, Washington University School of Medicine, St. Louis.
Moderator: William C. Allen, M.D., Columbia.
Sponsored by the Missouri Academy of Family Physicians.

2:00-
3:30 PM *"Evaluation and Treatment of Congestive Heart Failure*. Windgate 75.
Speaker: Edward Geltman, M.D., Director of Cardiac Catheterization Laboratory, Barnes Hospital; Assistant Professor of Medicine, Washington University School of Medicine, St. Louis.
"Evaluation and Treatment of Hypertension."
Speaker: Allan S. Jaffe, M.D., Director of Coronary Care Unit, Barnes Hospital; Assistant Professor of Medicine, Washington University School of Medicine, St. Louis.
Moderator: Peter G. Tuteur, M.D., St. Louis.
Sponsored by the Missouri Society of Internal Medicine and E. R. Squibb.

2:00-
4:00 PM *"Anesthetic Considerations for Non-Obstetrical Surgery in the Pregnant Patient."* Windgate 72.
Speaker: Clyde Shelly, M.D., Lieutenant Commander, U.S. Navy, Director of Obstetrical Anesthesia, Portsmouth Naval Hospital, Portsmouth, Va.

2:45 PM *"Intrathecal and Epidural Narcotics"*
Speaker: Clyde Shelly, M.D., Portsmouth Naval Hospital, Va.

3:30 PM Questions and Answers
Moderator: Robert E. Binda, M.D., Kansas City.
Sponsored by the Missouri Society of Anesthesiologists

5:00-
6:30 PM Missouri University Alumni Reception. Windgate 60-61.

5:00-
6:30 PM St. Louis University Alumni Reception. Windgate Center.

5:00-
6:30 PM Washington University Alumni Reception. Windgate 63-64.

6:30 PM MSMA Social Hour Preceding Annual Banquet. Parasol Foyer.

7:15 PM **MSMA Annual President's Banquet.** Windgate South.

SUNDAY, MARCH 20

7:30 AM **HOUSE OF DELEGATES BREAKFAST AND FINAL SESSION.** Windgate South.

9:00 AM-
12:00 NOON Missouri Dermatological Society Clinical Rounds, University of Missouri Health Sciences Center, Columbia.

COMMERCIAL EXHIBITORS LIST

125th MSMA Annual Session

March 17-20, 1983

Tan-Tar-A Resort,
Lake of the Ozarks

Booth	*Exhibitors*
25 & 26	C. W. Alban & Company, Inc. St. Louis
9	Avis Rent A Car System St. Louis
37	Biomedical Reference Labs, Inc. Burlington, N. C.
46	Encyclopaedia Britannica Chicago, Ill.
17	Forrest T. Jones Company, Inc. Kansas City
30	Fred S. James and Company of Missouri, Inc. Kansas City
8	Future Innovations, Inc. c/o Medical Defense Associates Springfield
6	Geigy Pharmaceuticals Edina, Minn.
2	General American/Medicare St. Louis
41	Glaxo, Inc. Ft. Lauderdale, Fla.
36	Health Resource Ltd. Kansas City
42	Hyland Center/St. Anthony's Medical Center St. Louis
31	IBM Corporation Jefferson City
39	Johnston's, Inc. Shawnee, Kan.
44	The Key Company St. Louis
5	Medical Defense Associates Springfield
3	Medical Processing Systems, Inc. Omaha, Neb.
33	The Medical Protective Company Fort Wayne, Ind.
12	Merck Sharp & Dohme West Point, Pa.
40	Metpath, Inc. Milwaukee, Wis.
1	Misemer Pharmaceuticals, Inc. Springfield
14	Missouri Division of Health/Bureau for Prevention of Mental Retardation Jefferson City
28	Missouri Medical Insurance Company St. Louis
11	Missouri State Medical Association Jefferson City
23	Moore Business Systems Denton, Tex.
21	Organon Pharmaceuticals West Orange, N. J.
4	Paintings Unlimited Ballwin
7	Parke-Davis Morris Plains, N. J.
15	Physicians Planning Service St. Louis
13	Roerig Division/Pfizer, Inc. Leawood, Kan.
29	Rowell Laboratories, Inc. Baudette, Minn.
20	St. Louis Blue Shield St. Louis
32	St. Luke's Hospital of Kansas City Kansas City
24	W. B. Saunders Company Shawnee Mission, Kan.
35	Searle Laboratories Chicago, Ill.
27	Seiler Instrument & Manufacturing Company, Inc. St. Louis
45	SmithKline Clinical Labs Creve Coeur
16	Smith Kline & French Laboratories Philadelphia, Pa.
22	DHHS/Social Security Administration Kansas City
18	Southern Medical Association Birmingham, Ala.
38	The Upjohn Company St. Louis
34	U. S. Air Force Health Professions Kansas City
10	US Army Medical Department Washington, D. C.
19	U. S. Navy Kansas City
43	Wallace Laboratories Cranbury, N. J.

In lieu of exhibits, the following firms have made cash donations to assist in the sponsorship of Scientific Sessions:

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Please see opposite page for brief summary of prescribing information.

**Meeting of Am Soc Colon/Rectal Surgeons, May 1980*
***Data on file, Marketing Research Dept, Parke-Davis*

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Each gram of Anusol-HC Cream contains hydrocortisone acetate, 5.0 mg, bismuth subgallate, 22.5 mg, bismuth resorcin compound, 17.5 mg; benzyl benzoate, 12.0 mg; Peruvian balsam, 18.0 mg, zinc oxide, 110.0 mg; also contains the following inactive ingredients: propylene glycol, propylparaben, methylparaben, polysorbate 60 and sorbitan monostearate in a water-miscible base of mineral oil, glyceryl stearate and water.

Anusol-HC Suppositories and Anusol-HC Cream help to relieve pain, itching and discomfort arising from irritated anorectal tissues. These preparations have a soothing, lubricant action on mucous membranes, and the antiinflammatory action of hydrocortisone acetate in Anusol-HC helps to reduce hyperemia and swelling.

The hydrocortisone acetate in Anusol-HC is primarily effective because of its antiinflammatory, antipruritic and vasoconstrictive actions.

Indications and Usage: Anusol-HC Suppositories and Anusol-HC Cream are adjunctive therapy for the symptomatic relief of pain, itching and discomfort in: external and internal hemorrhoids, proctitis, papillitis, cryptitis, and fissures, incomplete fistulas, pruritus ani and relief of local pain and discomfort following anorectal surgery.

Anusol-HC is especially indicated when inflammation is present. After acute symptoms subside, most patients can be maintained on regular Anusol® Suppositories or Ointment.

Contraindications: Anusol-HC Suppositories and Anusol-HC Cream are contraindicated in those patients with a history of hypersensitivity to any of the components of the preparations.

Warnings: The safe use of topical steroids during pregnancy has not been fully established. Therefore, during pregnancy, they should not be used unnecessarily on extensive areas, in large amounts or for prolonged periods of time.

Precautions: General: Symptomatic relief should not delay definitive diagnoses or treatment.

Prolonged or excessive use of corticosteroids might produce systemic effects.

If irritation develops, Anusol-HC Suppositories and Anusol-HC Cream should be discontinued until the infection has been adequately controlled.

Anusol-HC is not for ophthalmic use.

Pregnancy: See "WARNINGS"

Pediatric Use: Care should be taken when using the corticosteroid hydrocortisone acetate in children and infants.

Dosage and Administration: Anusol-HC Suppositories — Adults: Remove foil wrapper and insert suppository into the anus. Insert one suppository in the morning and one at bedtime for 3 to 6 days or until inflammation subsides. Then maintain comfort with regular Anusol Suppositories.

Anusol-HC Cream—Adults: After gentle bathing and drying of the anal area, remove the tube cap and apply to the exterior surface and gently rub in. For internal use, attach the plastic applicator and insert into the anus by applying gentle continuous pressure. Then squeeze the tube to deliver medication. Cream should be applied 3 or 4 times a day for 3 to 6 days until inflammation subsides. Then maintain comfort with regular Anusol Ointment.

NOTE: If staining from either of the above products occurs, the stain may be removed from fabric by hand or machine washing with household detergent.

How Supplied: Anusol-HC Suppositories — boxes of 12 (N 0071-1089-07) and boxes of 24 (N 0071-1089-13) in silver foil strips with Anusol-HC printed in black.

Anusol-HC Cream — one-ounce tube (N 0071-3090-13) with plastic applicator.

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Directory of Medical Specialty Organizations in Missouri

For the convenience of all MSMA members, the following is a list of medical specialty organizations in Missouri who responded to a request from Missouri Medicine for information regarding their officers and meeting time and place. This information will appear in Missouri Medicine twice yearly and will be updated in the 1983-1984 August issue of the Annual Directory and Membership Roster of this journal.

Any group not included below is invited to send this information to Missouri Medicine, P. O. Box 1028, Jefferson City, MO 65102 for inclusion in the August issue.

* PLEASE NOTE: The addresses and phone numbers of physicians' names with an asterisk (*) are listed in the 1982-1983 Directory-Roster issue of Missouri Medicine (August, 1982).

MISSOURI STATE ALLERGY ASSOCIATION

President: T. Reed Maxson, M.D.*
Executive Secretary: Donald Wilson, MSMA, P. O. Box 1028, Jefferson City 65102
Time and Place: (Not meeting with MSMA in 1983)

MISSOURI SOCIETY OF ANESTHESIOLOGISTS

President: William D. Owens, M.D.*
Secretary: Bhaskara Ponnuru, M.D.*
Time and Place: March 19, 20, 1983, Missouri State Medical Association Annual Convention, Tan-Tar-A Resort, Osage Beach

MISSOURI DERMATOLOGY SOCIETY

President: Gary A. Dyer, M.D.*
Executive Secretary: Dan H. Young, 8000 Crescent Dr., St. Louis 63105
Time and Place:

MISSOURI CHAPTER, AMERICAN COLLEGE OF EMERGENCY PHYSICIANS

President: Bruce Hutson, M.D.*
Secretary: Anthony Friedrich, M.D.*
Time and Place: MSMA Annual Convention, Tan-Tar-A, Osage Beach

MISSOURI EAR, NOSE & THROAT ASSOCIATION

President: W. Joel Wurster, M.D.*
Secretary-Treasurer: Donald Joseph, M.D.*
Time and Place: MSMA Annual Convention, Tan-Tar-A, Osage Beach

MISSOURI ACADEMY OF FAMILY PHYSICIANS

President: Wayne Boydston, M.D.*
Secretary-Treasurer: J. Fred Fairchild, M.D.*
Time and Place: 35th Annual Scientific Assembly, June 10-12, 1983, Alameda Plaza Hotel, Kansas City

MISSOURI SOCIETY OF INTERNAL MEDICINE

President: Peter G. Tuteur, M.D.*
Secretary-Treasurer: Stephen Hamburger, M.D.*
Time and Place: Annual Meeting, October, 1983, Columbia

MISSOURI NEUROSURGICAL SOCIETY

President: Edwin MacGee, M.D.*
Secretary-Treasurer: Jerome Hanson, M.D.*
Time and Place: MSMA Annual Convention, Tan-Tar-A, Osage Beach (Saturday Noon Luncheon)

MISSOURI OB-GYN SOCIETY

President: George J. Fuchs, M.D.*
Secretary: James E. Bickley, M.D.*
Time and Place: MSMA Annual Convention, Tan-Tar-A, Osage Beach

MISSOURI OPHTHALMOLOGICAL SOCIETY, INC.

President: Larry Piepergerdes, M.D.*
Secretary: Wayne Shelton, M.D.*
Time and Place: MSMA Annual Convention, Tan-Tar-A, Osage Beach

MISSOURI STATE ORTHOPAEDIC ASSOCIATION

President: Richard Hollocher, M.D.*
Secretary: Raymond Ritter, Jr.*
Time and Place: Fall, 1983, St. Louis

MISSOURI CHAPTER, AMERICAN ACADEMY OF PEDIATRICS

President: Don L. Thurston, M.D.*
Secretary-Treasurer: David Simon, M.D.*
Time and Place:

MISSOURI SOCIETY OF PATHOLOGISTS

President: James M. Flynn, M.D.*
Secretary-Treasurer: W. B. Stewart*
Time and Place: April 1, 1983 — Missouri State Medical Association, Jefferson City

CENTRAL SOCIETY OF REHABILITATION MEDICINE

President: Elias M. Throne, M.D.*
Secretary-Treasurer: V. Nanda Kumer, M.D., VA Hospital, 4801 Linwood Blvd., Kansas City 64128
Time and Place: March 19, 1983 — MSMA Annual Convention, Tan-Tar-A, Osage Beach

CENTRAL MISSOURI PSYCHIATRIC SOCIETY

President: Javad H. Kashani, M.D., Mid-Missouri Health Center, #3 Hospital Dr., Columbia 65201
Secretary-Treasurer: Anasseril E. Daniel, M.D. (Same Address)
Time and Place: Feb. 23, 1983, Country Club of Missouri, Columbia

MISSOURI RADIOLOGICAL SOCIETY

President: Joseph J. Summers, M.D.*
Secretary: Julian N. Verde, M.D.*
Time and Place: Sat., March 19, 1983 — MSMA Annual Convention, Tan-Tar-A, Osage Beach

MISSOURI CHAPTER, AMERICAN COLLEGE OF SURGEONS

President: Robert S. Hunt, M.D.*
Secretary-Treasurer: Edwin E. MacGee, M.D.*
Executive Secretary: Linda Wheelen, P. O. Box 4562, Springfield 65808
Time and Place: 1983 Annual Scientific Meeting, June 17-18, Lodge of the Four Seasons, Lake of the Ozarks

MISSOURI STATE SURGICAL SOCIETY

President: Andrew McCanse, M.D.*
Secretary-Treasurer: Frank L. Mitchel, M.D.*
Time and Place: Annual Scientific and Business Meeting — MSMA Annual Convention, Tan-Tar-A, Osage Beach

MISSOURI THORACIC SOCIETY

President: John R. Goheen, M.D.*
Secretary-Treasurer: William W. Pingleton, M.D.*
Time and Place:

FEDERATION OF MISSOURI UROLOGISTS

(Inactive at this time.)

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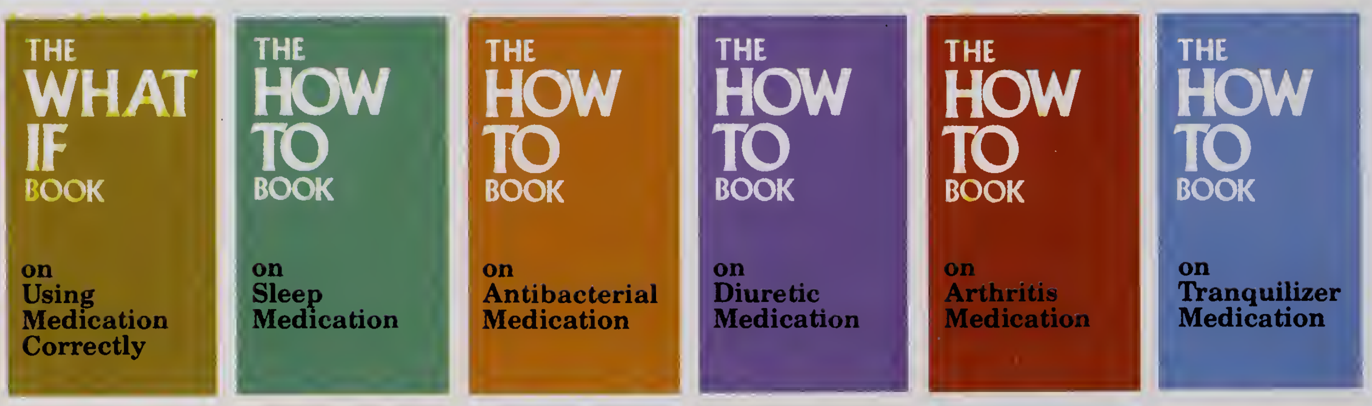
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MSMA Members Receive Physician's Recognition Award

Twenty-six MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the period of December, 1982.

The award is voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in Missouri Medicine as they are received from the AMA.

James J. Allain, North Kansas City
Joseph H. Brewer, Kansas City
Albert J. Campbell, Sedalia
Bela Czaki, Liberty
Ramon R. DyRagos, Kansas City
Frank H. Ise, Kansas City
Michael A. Kass, St. Louis
Edward H. Kowert, St. Louis
Gamaliel G. Lotuaco, Kansas City
William B. Mangum, Kansas City
Clyde V. Martin, Kansas City
David E. Nelson, Springfield
Carlos E. Noya, St. Joseph
Edward J. O'Brien, St. Louis
Michael C. Perry, Columbia
Jeanne E. Leick Reiss, Kansas City
Gregory J. Renner, Columbia
Arnold Schoolman, Kansas City
Mohammad Sheverini, Kansas City
Jose R. Somoza, North Kansas City
Narendir T. Soorya, St. Louis
Maxwell W. Steel, Kansas City
Juanito L. Villahermosa, Savannah
Nathaniel Winer, Kansas City
David T. Wong, Brookfield
Joe A. Zimmerman, Kennett

Continuing Education Coming Events

The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

Cardinal Glennon Memorial Hospital for Children
1465 S. Grand Blvd., St. Louis 63104
(314) 577-5000

June 15-17	Updating Skills and Knowledge in Neonatology Combined With A Fun Family Vacation in the Ozarks (For Pediatricians and Family Practice Physicians) (Tan-Tar-A, Osage Beach)

St John's Mercy Medical Center
615 S. New Ballas Rd., St. Louis 63141
(314) 569-6000
***Contact:* Felix E. F. Larocca, M.D.**

April 16	"The First BASH Annual Conference on Eating Disorders"

University of Missouri-Columbia School of Medicine
Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
***Contact:* William D. Bradshaw, M.D., Director**

Mar. 21, 22	29th Annual Urology Seminar (Kansas City)
Apr. 8	Preceptor's Day (Columbia)
Apr. 8-10	Group Relations Conference (Columbia)
Apr. 9-10	Sixth Annual Family Practice Update Session (Columbia)
Apr. 20, 21	Sixth Annual Primary Pediatrics for the Primary Physician (Columbia)
Apr. 29, 30	Second Annual Missouri Clinical Conference on Arthritis (Columbia)
May 6-8	Sixth Annual Missouri Cardiovascular Conference (Tan-Tar-A, Osage Beach)
May 18-20	Inflammatory Bowel Disease (Columbia)
Aug. 6, 7	Sixth Annual Soft Tissue Surgery Workshop (St. Louis)
Oct. 20-22	Fifth Annual Advances in Rheumatology Symposium (Columbia)
Nov. 4, 5	26th Annual Physicians Weekend (Columbia)

American College of Physicians
4200 Pine St., Philadelphia, PA 19104
(215) 243-1200
***Contact:* Jane A. Ayers**

Feb. 25-26	Regional CME Meetings (Alameda Plaza Hotel, Kansas City)

Mercy-Baptist Eye Foundation
615 S. New Ballas Rd., St. Louis 63141
(314) 432-5478
***Contact:* Mrs. Judi Kramer, Coordinator**

May 15	16th Eye Seminar — Laser Surgery for Cataract, Glaucoma and Retina

Mid-American Heart Institute of St. Luke's Hospital
Center for Continuing Education
44th and Wornall, Kansas City 64111
(816) 932-2111
***Contact:* Pat Prochaska or Jane Popp**

Apr. 28-30	Third Annual Symposium on Advances in Heart Disease

Menorah Medical Center
4949 Rockhill Rd., Kansas City 64110
(816) 276-8000
***Contact:* Erich W. Pollak, M.D., Director of Surgical Education, for the following:**

4:00 PM — Basic Sciences to Surgery Seminar
(Monday through Friday)

3:00 PM — Surgical Rounds
(Every Wednesday and Friday)

4:00 PM — Surgical Techniques Seminar
(Every second and fourth Wednesday)

4:45 PM — Morbidity and Mortality Conference
(Every fourth Wednesday)

8:00 AM — Morbidity and Mortality Conference
(Every second Saturday)

7:00 AM — Surgical Grand Rounds
(First and third Thursdays)

***Contact:* David S. Sneid, M.D., Director of Medical Education, for the following:**

9:00 AM — Medicine Staff Conference
(First, third and fourth Tuesdays)

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
***Contact:* Alta Bingham**

March 10-12	Perspectives in Medical Care (Hyatt Regency Hotel)
March 19-26	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Snowmass, Colo.)
April 21-23	Update in Obstetrics and Gynecology (Hyatt Regency Hotel)
May 12-13	Surgical Problems — The Old and the New (Alameda Plaza Hotel)

St. Louis University Medical Center
Dept. of Orthopedic Surgery
1325 S. Grand Blvd.

Oct. 29-30	Spinal Disorders in Children

The Ed Bixby Institute Research Medical Center
2316 E. Meyer Blvd., Kansas City 64132
(816) 276-4306
***Contact:* Jane L. Jackson, Director of Seminars**

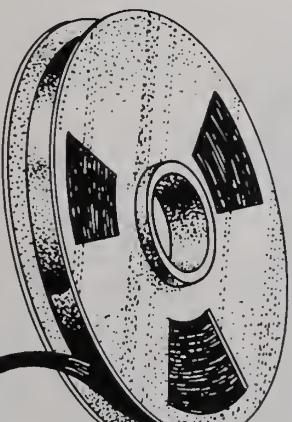
Apr. 6	Acute and Chronic Pain Management
June 1	Pulmonary Disease: Critical Care
Aug. 3	New Radiology Techniques

The Edward Mallinckrodt Institute of Radiology — Washington University School of Medicine
510 S. Kingshighway, St. Louis 63110
(314) 367-2131
***Contact:* Ronald G. Evens, M.D., Director**

Mar. 14	City-Wide Radiology Conference — New Approaches to Measuring Cardiac Function in Nuclear Radiology
Apr. 11	Leroy Sante Lecture (St. Louis University)
May 9	City-Wide Radiology Conference — Pediatric Radiology
May 6-14	Fifth Annual Current Concepts in Musculoskeletal Radiology and Orthopedics (With Inter-American Congress of Radiology) (Acapulco)

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3873
***Contact:* Loretta Giacoletto, Office of CME**

Feb. 28-May 6	Internal Medicine Review
Mar. 19	Clinical Applications of Advanced CT Technology for Management of Craniofacial Disorders
Apr. 7-8	Ninth Annual Symposium on Obstetrics and Gynecology
Mar. 24-25	Practical Management of Common Rheumatologic Disorders



Magnetic tape billing gives you quick, error-free Medicaid payments.

Like most health care professionals, you're concerned about cash flow and administrative expenses. When it comes to Medicaid claims, General American Consultec can help through **magnetic tape billing** (MTB).

With Medicaid MTB, you do not have to wait for your claims to be processed by clerks. We run your tape on our computer the same day it is received. Payments are free from clerical error, because there's no room for misinterpretation on our part. In the future, we plan to be able to send a taped remittance advice that will allow you to automate account posting and reduce your clerical costs. This highly automated system can significantly reduce your administrative overhead and improve your cash flow.

All you do is submit claims on magnetic tape instead of paper forms. General American Consultec furnishes complete system and administrative support. You must, of course, have access to a computer.

Is MTB an idea whose time has now come for you? For more information contact the Medicaid MTB Project Team.

Missouri Medicaid
General American Consultec

P.O. Box 14146 • St. Louis, MO 63178
(314) 843-8700, Ext. 5513, 5517, or 5526

medical melange

Notes of interest from Here . . . . and There

Dr. Joe H. Gonzales, Perryville, urologist at the Perry County Medical Center, has received The Rural Physician Award of the Philippine Medical Association of Greater St. Louis, Inc. The award is in recognition of his professional leadership, dedicated service to rural community medicine and continued support and loyalty to the organization. Dr. Gonzales is a Diplomate of The American Board of Urology, past-president of Perry-Ste. Genevieve County Medical Society and past-chief of staff of Perry County Medical Hospital. He currently is chief of surgery at the hospital and senior consultant for urology at Ste. Genevieve Hospital and Madison Memorial Hospital in Farmington.

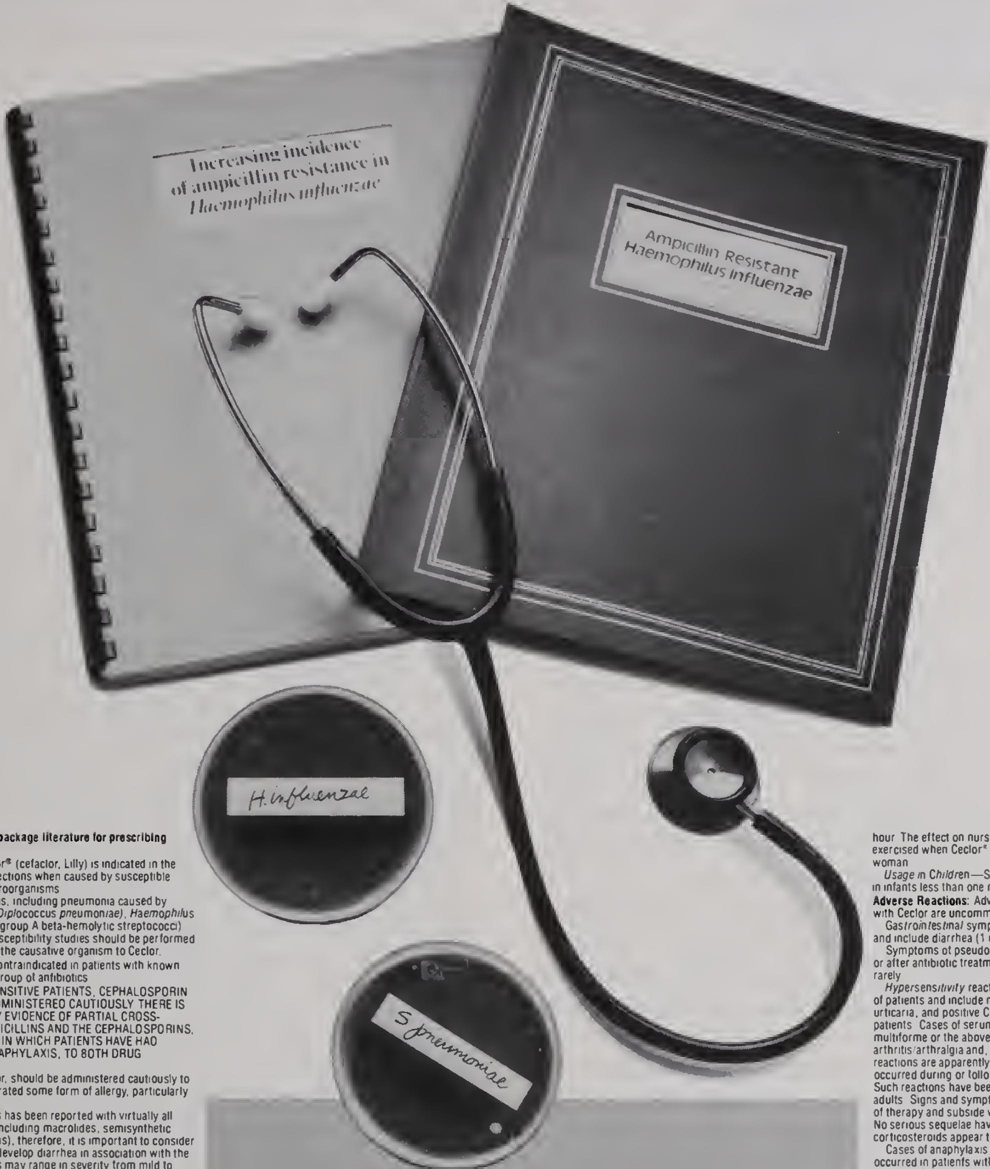
Dr. Frank J. Albani, a 39-year-old urologist practicing in Liberty, has been elected president-elect of the newly reorganized Clay-Platte County Medical Society. He will assume the presidency in 1984, succeeding **Dr. David E. Wilson**, the first president of the Medical Society. Other newly elected 1983 officers are **Drs. Bruce A. Kauk**, secretary; **Mahmoud M. Nourbakhsh**, treasurer; **Carroll Patterson**, member, executive committee; and **Donald A. Fakhoury**, member, judicial council.

Dr. N. R. Datta, Festus, has been elected president of Jefferson County Medical Society and **Dr. Maria Albano** will continue her two-year term as secretary-treasurer. At the recent election meeting, **Mr. Roger Dietrich**, executive vice-president of MOMEDICO, was the speaker for the evening.

Dr. James C. Sisk, St. Louis, has been elected a member of the Executive Committee of the newly consolidated Board of Trustees of the national Blue Cross and Blue Shield Association. The Chicago-based association is the national organization of the 67 Blue Cross and 68 Blue Shield Plans throughout the United States. Dr. Sisk, a dermatologist, is the only practicing physician on the nine-member Executive Committee. He will continue to serve as chairman of the Board of Trustees of the St. Louis Blue Shield Plan. Officers and Board members of the Association and St. Louis Blue Shield serve without compensation as a community service.

Dr. James E. Bowers, St. Louis, was elected president of the medical staff at Cardinal Glennon Memorial Hospital for Children in January for a two-year term. He succeeds **Dr. Patricia L. Monteleone.** Also in active private practice, Dr. Bowers has been involved with the medical staff since joining Cardinal Glennon Hospital in 1969. He also serves as chairman of the Credentials Committee and Bylaws Committee and as a member of the Utilization Review Committee. He is medical editor of the monthly hospital newsletter, *Medical Staff News*. Other newly elected officers are **Drs. Anthony J. Rejent**, president-elect; **John D. Bouhasin**, secretary; **Mohamed Amjad**, treasurer; and **Michael J. Chehval**, **Jerome L. L'Ecuyer**, and **Dennis M. O'Connor**, members-at-large.

An added complication... in the treatment of bacterial bronchitis*


Increasing incidence of ampicillin resistance in Haemophilus influenzae
Ampicillin Resistant Haemophilus influenzae
H. influenzae
S. pneumoniae

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms.

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and S. *pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one hour. The effect on nursing infants is not known. Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782R]

Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor

Pulvules®, 250 and 500 mg

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* Many authorities attribute acute infectious exacerbation of chronic bronchitis to either S. *pneumoniae* or H. *influenzae*.[8]

Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

References

1. Antimicrob. Agents Chemother., *8*: 91, 1975.
2. Antimicrob. Agents Chemother., *11*: 470, 1977.
3. Antimicrob. Agents Chemother., *13*: 584, 1978.
4. Antimicrob. Agents Chemother., *12*: 490, 1977.
5. Current Chemotherapy (edited by W. Siegenthaler and R. Luthy), II: 880. Washington, D.C.: American Society for Microbiology, 1978.
6. Antimicrob. Agents Chemother., *13*: 861, 1978.
7. Data on file, Eli Lilly and Company.
8. Principles and Practice of Infectious Diseases (edited by G. L. Mandell, R. G. Douglas, Jr., and J. E. Bennett), p. 487. New York: John Wiley & Sons, 1979.

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Lilly

Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285

Eli Lilly Industries, Inc.
Carolina, Puerto Rico 00630

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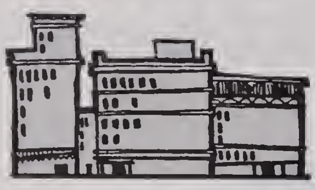

NEWS
From the Medical Schools

UNIVERSITY OF MISSOURI-COLUMBIA

Dr. Charles C. Lobeck Jr. has announced to his faculty colleagues that he will step down as dean of the University of Missouri-Columbia School of Medicine.

After more than seven years as Dean, Dr. Lobeck expressed his personal desire to explore new career directions. He has offered to remain in the post until a new dean is found, but not beyond Aug. 31, 1983.

Provost Ronald Bunn will meet with representatives of the School's faculty and staff to discuss the process by which Dean Lobeck's successor will be found.

A pediatrician, Dr. Lobeck was selected for the deanship from a field of 197 candidates. He received his medical degree from the University of Rochester (N. Y.) School of Medicine. Before coming to UMC, Dean Lobeck was chairman of the Pediatrics Department for ten years and director of clinical affairs for one year at University Hospitals, University of Wisconsin Center for Health Sciences in Madison.

Under Dean Lobeck's leadership, the UMC School of Medicine has moved forward on several fronts. The School's basic science departments have been modernized and major improvements have been made in the clinical departments.

The School's family and community medicine program is now one of the most respected in the nation. Dean Lobeck has also maintained and strengthened the research and teaching efforts in such fields as arthritis, kidney disease, ophthalmology, diabetes, heart disease, control of blood pressure, cystic fibrosis, basic microbiology, plastic surgery and peripheral vascular surgery, among others.

During his tenure, Dean Lobeck has overseen major improvements in the School's physical facilities. A new ophthalmology clinic was opened recently, ground has been broken for a diabetes center and construction will begin on a new Health Sciences Library next year.

Paul F. Agris, Ph.D., assistant professor of medicine, recently chaired a session on "Gene Action, Development and Aging: New Directions for Research in Werner's Syndrome" at part of a joint U. S.-Japanese seminar in December in Kobe, Japan. At the colloquim focused on pathogenetic mechanisms in Werner's syndrome and their role in human aging, Dr. Agris also presented his work with autoimmune antigens and transfer RNAs.

While in Japan, Dr. Agris delivered a lecture on "NMR in Biological Medical Research" at the National Cancer Center, University of Tokyo and on "Autoimmune Disease Biomedical Research" at Keio University Medical Center, Tokyo and at the Saitama Cancer Research Institute, Saitama.

Robert M. Blake, Jr., M.D. assistant professor in the Department of Family and Community Medicine, and his team have received a $149,949 grant from the Robert Wood Johnson Foundation. The funding will allow selected nurse practitioners to provide counseling and education for those recently subjected to abnormal life stress and who have little social and familial support. Previous research suggests that these individuals may be at a higher risk for many illnesses.

The efficacy of the approach will be evaluated as part of the three-year study. The Robert Wood Johnson Foundation is funding 21 projects aimed at restoring or maintaining an individual's ability to function at one's peak.

Dr. Blake's proposal was among 254 received by the Foundation, the nation's largest private health care philanthropy. Members of Dr. Blake's team include *Edward Brent*, Ph.D.; *Elaine Doyle*, R.N.; *Stanley Ingman*, Ph.D.; *Vicki Straub*, Ph.D.; and *Steven Zweig*, M.D.

Robert P. Burns, M.D., chairman of the Department of Ophthalmology, has announced that Research to Prevent Blindness (RPB) will offer UMC's Institute of Ophthalmology $14,000 to help support its studies. Since 1979, RPB has provided the medical school with $33,500 in unrestricted funds to strengthen the entire eye health research program.

Modern eye research has significantly reduced the hospitalization and recovery time for many patients, cutting health care costs as well as saving patients' sight, President Lew R. Wasserman of the RPB notes. And, the application of research findings to the clinical needs of patients has occurred more rapidly in ophthalmology than in any other medical field, says Dr. Burns.

Dr. Sharon Levin has joined the University of Missouri-Columbia School of Medicine's Child Health Department as an assistant professor. Dr. Levin will work in the general pediatrics residency program and develop a training area in adolescent medicine. She previously worked in adolescent medicine at the University of Arizona School of Medicine.

Dr. Walter J. Levy, assistant professor of neurosurgery, presented a paper at the Second International Evoked Potential Symposium in Cleveland. The paper, "Motor Track Evoked Potentials," was written by Dr. Levy and Dr. Donald H. York, professor of physiology at the School of Medicine.

UNIVERSITY OF MISSOURI-KANSAS CITY

The Truman Medical Center Charitable Foundation will receive $1 million over a four-year period from the Hyatt Regency Hotel federal class settlement. Truman Medical Center is the primary adult teaching hospital for the University of Missouri-Kansas City School of Medicine.

According to *Ann Hyde*, director of development, the hospital will receive $250,000 each year for four years. The Foundation Board, which is responsible for allocating the funds, is considering three options for the donation: placing the money in an endowment fund and using only the accrued interest; using all or part of the money for the purchase of capital equipment; or using the funds to subsidize certain hospital programs.

Children's Mercy Hospital, the primary pediatric teaching hospital of the medical school, will receive $2 million in the same settlement.

Joel Covinsky, Pharm.D., associate professor of medicine and pharmacy, has been named president-elect of the American College of Clinical Pharmacy for the 1983-1984 year. He will begin his one-year term in July and will serve as president of the organization during the 1984-1985 year.

Dr. Covinsky also is director of the Section of Clinical Pharmacology and executive director of the Metabolic Support Service at Truman Medical Center. He has been a member of the medical school faculty since 1972.

The School of Medicine recently received $7,480 from the *Charles Orr Cooper* estate to be used for cancer research at the school. According to *Jerry Volenec*, Ph.D., clinical professor of medicine and biology, the money will also help to support medical student research projects.

In a separate bequest, the School received $2,500 from *Mrs. Rex L. Diveley*, the widow of a prominent Kansas City orthopedic surgeon, for the continuation of the Rex L. Diveley Memorial Lectureship. Dr. Frank Stinchfield of the Columbia University College of Physicians and Surgeons will deliver the 1983 Diveley Lectureship in May.

Dr. Bernard Lubin, professor of psychology and medicine and chairman of the UMKC Psychology Department, is listed in the newly published sixth edition of "Who's Who in the World for 1982-1983."

The recipient of the 1981 N.T. Veatch Award for distinguished research and creative activity, Dr. Lubin currently is completing a binational study on patterns of aging and depressive mood.

ST. LOUIS UNIVERSITY

St. Louis University Hospitals opened a new Cardiovascular Fitness and Rehabilitation Center in January. The $250 million fitness center is designed to provide expanded rehabilitation programs for patients, as well as preventive medicine services for healthy individuals, that can enhance their health status by reducing coronary risk factors such as obesity, smoking, stress and hypertension.

Ami Drimmer, Ph.D., exercise physiologist, will direct the center and work with patients who are undergoing specific programs for rehabilitation or risk reduction.

Terry V. Zenser, Ph.D., associate professor of internal medicine and associate professor of biochemistry, has been awarded a $60,000 grant from the American Cancer Society. His research is titled, "Renal Medullary Metabolism of Chemical Carcinogens: A New Hypothesis for the Genesis of Renal Cancer."

Hubert A. Ritter, M.D., clinical professor of obstetrics and gynecology, has been appointed to the 22-member governing board of the Joint Commission on Accreditation of Hospitals and began his three-year term Jan. 1, 1983. Dr. Ritter will represent the American Medical Association where he has been an elected member of the AMA Board of Trustees since 1976.

Thomas F. Frawley, M.D., professor emeritus of internal medicine and chairman emeritus of the department, has been elected to a two-year term as chairman of the Visiting Nurse Association

(VNA) of Greater St. Louis Medical Advisory Committee.

The VNA is a nonprofit organization providing home health care services in St. Louis city and county, and in Jefferson and St. Charles counties.

WASHINGTON UNIVERSITY

Nevin S. Scrimshaw, M.D., Ph.D., a leading authority on world hunger, presented the fourth annual McDonnell Lectureship for Youth at the School of Medicine. He discussed the world's major nutrition problems during the 1982 lecture series.

Dr. Scrimshaw, a specialist in malnutrition in developing nations, is director of the International Nutrition Program and head of Department of Foods and Nutrition at Massachusetts Institute of Technology in Cambridge.

M. L. Jack Siefkas has been appointed Director of Medical Alumni and Development Programs at the School of Medicine in St. Louis.

Announcement of the appointment was made by *Herbert F. Hitzeman Jr.*, vice-chancellor for university relations at Washington University. As director, Mr. Siefkas will work closely with the vice-chancellor for medical affairs in planning all alumni and development activities and programs. Before coming to St. Louis, he was director of development and public affairs at Southern Illinois University School of Medicine in Springfield. His duties there included organization and direction of alumni programs, development programs, publications media relations and special events.

Mr. Siefkas' experience includes serving as vice-president for college relations at Stephens College in Columbia from 1971-1978 and as director of development at Drake University in Des Moines, Iowa from 1969 to 1971. He was associate director of development and director of alumni affairs at Simpson College in Indianola, Iowa, for two years.

Researchers at the School of Medicine will be better able to study cancer cell biology because of a new image analysis device donated by Emerson Electric. The device can count groups of human cancer cells as they reproduce and grow in the laboratory.

Emerson Electric donated the device to the Department of Surgery's Urology Division, headed by *William P. Fair*, M.D. Researchers within that division, *W. D. W. Heston*, Ph.D., and *Jonathan Fleischman*, M.D., are testing at least ten chemotherapeutic agents against eight different types of tumor.

New Members

Stephen P. Allen, M.D., 125 Clara Ave., St. Louis 63119, has become a member of St. Louis Metropolitan Medical Society. Dr. Allen is a native of St. Louis, received his preliminary education at Tulane University and his M.D. degree at St. Louis University in 1975. He specializes in internal medicine and oncology/hematology.

Barbara A. Batts, M.D., 1010 Carondelet Dr., Suite 328, Kansas City 64114, has become a member of Jackson County Medical Society. Dr. Batts is a native of St. Louis, received her preliminary education at Stanford University and her M.D. degree at St. Louis University in 1978. She specializes in obstetrics and gynecology.

Mary A. Bieker, M.D., 12663-B Mateus Dr., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Bieker is a native of Burlington, Wis., received her preliminary education at Indiana University and her M.D. degree at Indiana University in 1979. She specializes in internal medicine.

Glenna C. Burton, M.D., 800 Stadium, Columbia 65201, has become a member of Boone County Medical Society. Dr. Burton is a native of Independence, received her preliminary education at the University of Missouri-Columbia and her M.D. degree at the University of Missouri-Kansas City in 1977. She specializes in psychiatry.

Robert J. Capps, M.D., University of Missouri, Hospital and Clinics #1, Hospital Dr., Columbia 65212, has become a member of Boone County Medical Society. Dr. Capps is a native of St. Louis, received his preliminary education at Stanford University and his M.D. degree at Washington University in 1978. He specializes in internal medicine and rheumatology.

Philip G. Conway, M.D., 3313 Halliday, St. Louis 63118, has become a member of St. Louis Metropolitan Medical Society. Dr. Conway is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at St. Louis University in 1979. He specializes in internal medicine.

Gerald V. Cupp, M.D., 401 Keene St., Columbia 65201, has become a member of Boone County Medical Society. Dr. Cupp is a native of Atlanta, Mo. received his preliminary education at Northeast Missouri State University and his

M.D. degree at the University of Missouri-Columbia in 1968. He specializes in cardiology.

Robert Cusworth, M.D., 1301 Boonslick, St. Charles 63301, has become a member of St. Charles-Lincoln County Medical Society. Dr. Cusworth is a native of Utica, N.Y., received his preliminary education at the College of William and Mary and his M.D. degree at the University of Rochester in 1974. He specializes in gastroenterology.

John G. Davenport, M.D., Truman VA Hospital, 800 Stadium Rd., Columbia 65212, has become a member of Boone County Medical Society. Dr. Davenport is a native of Chicago, Ill., received his preliminary education at Dartmouth College and his M.D. degree at McGill University in 1968. He specializes in neurology.

Henry F. Domke, M.D., 1314 W. Edgewood Dr., P.O. Box 1466, Jefferson City, has become a member of Cole County Medical Society. Dr. Domke is a native of St. Louis, received his preliminary education at the University of Kansas and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in family practice.

Gregory A. Doak, M.D., 203 E. Jackson, Mexico 65265, has become a member of Audrain County Medical Society. Dr. Doak is a native of Columbia, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in internal medicine.

James B. Durham, M.D., University of Missouri, Health Sciences Center, Dept. of Pathology, Stadium Blvd., Columbia 65212, has become a member of Boone County Medical Society. Dr. Durham is a native of Augusta, Ga., received his preliminary education at Oberlin College and his M.D. degree at the University of Missouri-Columbia in 1974. He specializes in pathology.

Carol T. Ewing, M.D., Lake of the Ozarks General Hospital, Osage Beach 65065, has become a member of the Lake of the Ozarks Medical Society. Dr. Ewing is a native of Oklahoma City, Okla., received her preliminary education at the University of Oklahoma and her M.D. degree at the University of Colorado in 1961. She specializes in clinical and anatomical pathology.

Carol S. Franklin, M.D., 2005 Basston Dr., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Franklin is a native of San Diego, Calif., received her preliminary education at the University of Florida and her M.D. degree at the University of South Florida in 1981. She specializes in emergency medicine.

Lanny W. Geary, M.D., 101 E. Green Meadows Rd., #24, Columbia 65201, has become a member of Boone County Medical Society. Dr. Geary is a native of Stover, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1980. He specializes in internal medicine.

Sarah W. Hainline, M.D., 4104 Upton Ct., St. Louis 63116, has become a member of St. Louis Metropolitan Medical Society. Dr. Hainline is a native of Kansas City, received her preliminary education at Wellesley College and her M.D. degree at Duke University in 1978. She specializes in obstetrics and gynecology.

Russell M. Hustead, M.D., 1010 Carondelet, Suite 328, Kansas City 64114, has become a member of Jackson County Medical Society. Dr. Hustead is a native of New Haven, Conn., received

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his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1978. He specializes in obstetrics and gynecology.

John W. McKinney, M.D., 517 Euclid Ave., St. Louis 63108, has become a member of St. Louis Metropolitan Medical Society. Dr. McKinney is a native of St. Louis, received his preliminary education at Southeast Missouri State University and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in otorhinolaryngology.

Gary J. Meltz, M.D., 1301 Boonslick, St. Charles 63301, has become a member of St. Charles-Lincoln County Medical Society. Dr. Meltz is a native of St. Louis, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Miami in 1977. He specializes in internal medicine.

Carlton S. Pearse, M.D., 224 S. Woods Mill Rd., #530, Chesterfield 63017, has become a member of St. Louis Metropolitan Medical Society. Dr. Pearse is a native of Denver, Colo., received his preliminary education at the University of Colorado and his M.D. degree at Washington University in 1978. He specializes in obstetrics and gynecology.

Dan S. Reiner, M.D., 6625 Clayton Ave., St. Louis 63139, has become a member of St. Louis Metropolitan Medical Society. Dr. Reiner is a native of New York City, N.Y., received his preliminary education at Washington University and his M.D. degree at St. Louis University in 1980. He specializes in general surgery.

Donald R. Richardson, M.D., Suite 205, 3535 S. Jefferson, St. Louis 63118, has become a member of St. Louis Metropolitan Medical Society. Dr. Richardson is a native of Maysville, Okla., received his preliminary education at Johns Hopkins University and his M.D. degree at the University of Missouri-Columbia in 1975. He specializes in internal medicine.

Stephen A. Schmidt, M.D., 6125 Pointview La., St. Louis 63123, has become a member of St. Louis Metropolitan Medical Society. Dr. Schmidt is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1978. He specializes in internal medicine and gastroenterology.

Melissa M. Sedlis, M.D., 12660 Lamplighter Sq., St. Louis 63128, has become a member of St. Louis Metropolitan Medical Society. Dr. Sedlis is a native of Cincinnati, Ohio, received her preliminary education at St. John's College and her M.D. degree at Ohio State University in 1977. She specializes in pediatrics and pediatric hematology/oncology.

Peter G. Smith, M.D., 4911 Barnes Hospital Plaza, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Smith is a native of Ancon, Canal Zone, received his preliminary education at Purdue University and his M.D. degree at the University of South Carolina in 1976. He specializes in otolaryngology.

Kailash C. Tarneja, M.D., 8710 A. Park, Crestwood Dr., St. Louis 63126, has become a member of St. Louis Metropolitan Medical Society. Dr. Tarneja is a native of Delhi, India, received his preliminary education at Delhi University and his M.D. degree at Delhi University in 1974. He specializes in diagnostic radiology.

Zbylut J. Twardowski, M.D., University of Missouri, M-472 Health Sciences Center, #1 Hospital Dr., Columbia 65212, has become a member of Boone County Medical Society. Dr. Twardowski is a native of Stanislawice, Poland, received his M.D. degree at the School of Medicine, Krakow, Poland in 1959. He specializes in nephrology.

Jose G. Vijungco, M.D., 12660 Lamplighter Sq., St. Louis 63128, has become a member of St. Louis Metropolitan Medical Society. Dr. Vijungco is a native of Manila, Philippines, received his preliminary education at the University of Santo Tomas and his M.D. degree at the University of Santo Tomas in 1966. He specializes in radiology.

Dana J. Weaver, M.D., 21 West Blvd. N., Columbia 65201, has become a member of Boone County Medical Society. Dr. Weaver is a native of Wichita, Kan., received her preliminary education at the University of Oklahoma and her M.D. degree at the University of Oklahoma in 1976. She specializes in urology.

Deborah A. Wilson, M.D., N403 University Hospital, University of Missouri Health Sciences Center, Columbia 65212, has become a member of Boone County Medical Society. Dr. Wilson is a native of Pasadena, Calif., received her preliminary education at Indiana University and her M.D. degree at Indiana University in 1974. She specializes in internal medicine and rheumatology.

New Student Members

St. Louis University

David A. Abbott
Robert S. Baska
Wayne A. Breer
Steven K. Brodie
Wayne V. Polek
James P. Rice

University of Missouri-Columbia

J. Mark Beard
Edward W. Berry
Greg A. Bliss
Michael F. Boland
Mark A. Bowles
Diana K. Cavanah
Roseanne M. Cook
Patricia C. Estrada
Anne Fitzsimmons
Margaret M. Glynn
Nadine E. Graven-Kirkegaard
Gregory T. Hardin
Steven K. Lackey
Stephen S. Lee
Doug S. Neef
Luc S. Nguyen
Patricia A. Rahoy
Rill Jonathan
George D. Solomon
William G. Stinson
Marla K. Struebin
Lendel M. Taylor
Stephanie A. Wehrman
William D. Wright

University of Missouri-Kansas City

Daniel K. Bartlett
Carolyn C. Brannon
Robert M. Byrne
Elliot J. Cohn
Marilyn Darr
Thomas A. Franey
Michael D. Funderburk
Donna J. Gowin
Thomas D. Heidewald
Michele G. Kilo
Susan C. Mann
Dacey L. Miller
Nelson R. Sabates
Mary L. Vogelsang

Washington University

Jennifer W. Cole
Craig A. MacArthur
Howard Rowley
M. Kaya Sila

In Memoriam

Charles Sparger, M.D., 117 S. Jefferson, Doniphan 63935; graduate of University of Texas Southwestern, 1947; member of Butler-Wayne-Ripley-Carter County Medical Society; aged 58; died Dec. 11, 1982.

C. Braxton Davis, M.D., 7800 S. Charlotte, Oklahoma City, Okla. 73159; graduate of the University of Nebraska, 1934; member of West Central County Medical Society; aged 72; died Dec. 15, 1982.

Oliver A. McKee, M.D., 26 Portland Pl., St. Louis 63108; graduate of Royal College of Physicians and Surgeons in Ireland, 1949; member of St. Louis Metropolitan Medical Society; aged 59; died Nov. 28, 1982.

Grayson L. Carroll, M.D., 710 S. Hanley Rd., St. Louis 63105; graduate of University of Texas, 1919; member of St. Louis Metropolitan Medical Society; aged 87; died Dec. 19, 1982.

Jacob Kulowski, M.D., 5106 Stonecrest Terr., St. Joseph 64506; graduate of the University of Buffalo, 1925; member of Buchanan County Medical Society; aged 82; died Dec. 22, 1982.

Louis R. Wentzel, M.D., 2537 Hiram, Wichita, Kan. 67217; graduate of St. Louis University, 1925; member of St. Louis Metropolitan Medical Society; aged 100; died Jan. 2, 1983.

Robert Mueller, M.D., 275 Union Blvd., St. Louis 63108; graduate of Washington University, 1917; member of St. Louis Metropolitan Medical Society; aged 89; died Jan. 5, 1983.

Anthony Saladino, M.D., 2009 W. 67th, Shawnee Mission, Kan. 66208; graduate of the University of Napoli, 1922; member of Jackson County Medical Society; aged 87; died Jan. 15, 1983.

Gerald L. Miller, Sr., M.D., 8417 Ensley La., Shawnee Mission, Kan. 66206; graduate of Northwestern University, 1939; member of Jackson County Medical Society; aged 69; died Jan. 16, 1983.

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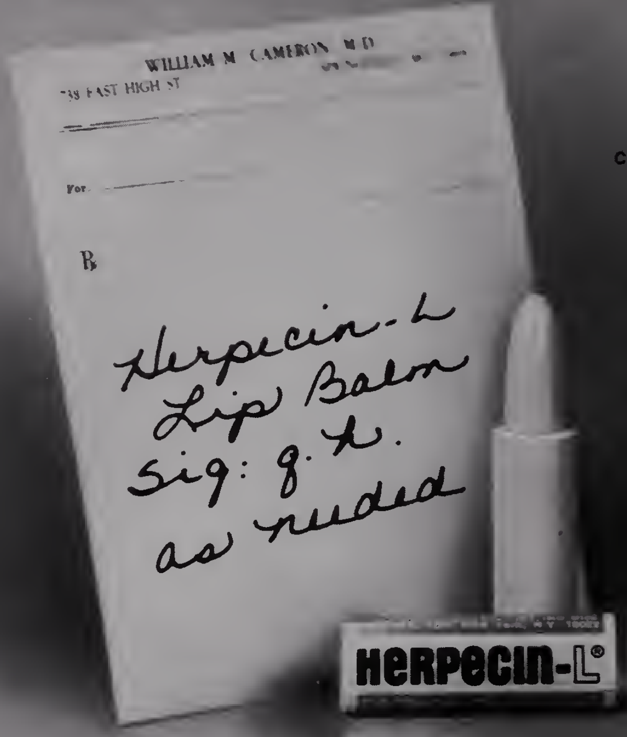

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COMMENT

Our Readers Write

To The Editor:

Americans are bombarded every day by commercial messages that encourage unhealthy behavior, particularly the use of alcohol, tobacco and other drugs. It is impossible for a young person growing up in America today not to acquire the impression, often conveyed through advertisements, that such obviously unhealthy behaviors as smoking are associated with beauty, sexual prowess, wealth, vigor and, most bitterly of all, good health. The new advocates of health promotion and disease prevention speak optimistically of life-style changes. However, the life-styles represented by the collective fantasies of Madison Avenue and Hollywood are supported by powerful economic interests. Confronted by 350,000 needless deaths every year from cigarette smoking, another 100,000 associated with alcohol abuse, a poor health education system in general, and escalating health care costs, a growing number of physicians realize that the medical profession can no longer be content merely to treat disease.

Where does the physician begin as a teacher and promoter of good health? Chances are slim that he or she acquired the appropriate skills in undergraduate studies. The emphasis is always on subjects such as organic chemistry to the almost total subordination of the humanities, communication skills or anything remotely resembling community service. The pressure escalates in medical school, as the cloistered existence continues, and students are exposed to ever more specialized courses, and so on into residency and finally private practice.

The key to a successful preventive medicine program in one's practice is to make prevention a matter of high priority. The necessary skills can be learned and developed as with any other medically related technique — study and practice. Should the physician, for example, talk about emphysema and lung cancer to a 13-year-old? It might be better to discuss the physical unattractiveness of stained teeth, bad breath, the loss of athletic ability and the empty wallet that result from smoking. Individualization is the key.

Regardless of one's specialty, preventive medicine can be incorporated into the practice. The office waiting room should be one of the most important starting points since this is where patients spend a great deal of time. Examine the magazine rack; one physician recently admitting counting 192 full-page color ads for cigarettes in the magazines of his waiting room. A number of magazines, *Runner's World, Reader's Digest, National Geographic* and *Good Housekeeping*, scrupulously avoid advertising unhealthy life-styles. A commitment on the part of the 400,000 physicians in America not to let their waiting rooms be vehicles for selling cigarettes would be a significant step toward health promotion. (An extensive list of magazines refusing to accept unhealthy advertisements, i.e., cigarette ads, is available from the author.)

Magazines (most notable the weekly news magazines) are so beholden to the advertising dollars that they appear to adapt their reporting styles and editorials to their advertiser's needs. There has not been a single prominently featured article, for example, on the physical and economic toll of cigarette smoking in the major news magazines in ten years, according to my research.

The major thrust of DOC (Doctors Ought To Care) is, of course, preventive medicine. Alan Blum, M.D., president and cofounder of DOC, was in St. Louis this spring and discussed "What The Surgeon General Didn't Tell You." Speaking before about 100 medical students, residents and practicing physicians, Dr. Blum brilliantly purged the media for their role in the outright promotion of poor health habits. It's a sad commentary that the hospital at which Dr. Blum spoke promotes disease through the sale of cigarettes in the hospital gift shop.

Being a prevention specialist does not require a physician to care for the whole family, to make house calls or to acquire truckloads of patient education pamphlets and tapes. It doesn't require leaving town for CME credits (although not one of the 8,000 or so AMA-sponsored CME courses last year dealt with teaching doctors to help patients improve their life-styles). Simply stated, the physician must again become a teacher rather than a semi-devine miracle worker. Miracles have nothing to do with prevention. In essence, what prevention requires is the desire to help patients help themselves and faith that this will work.

Doctors Ought To Care (DOC)
Luke Burchard, M.D.
1810 Charleston Ave.
Mattoon, IL 61938

(Editor's Note: At the time this letter was written, Dr. Burchard was a resident in Family Practice at St. John's Mercy Medical Center in St. Louis. He also was a resident member of the St. Louis Metropolitan Medical Society, the American Academy of the Family Practice and the MSMA.)

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in Brief

A summary of AMA, medical & health news

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STANDARDS FOR STATE medical societies to follow in accrediting local CME programs were approved by the House of Delegates. The standards were spelled out in the "Protocol for the Recognition of State Medical Societies to Accredit Intrastate Continuing Medical Education Sponsors." The protocol requires that a state society's essentials be compatible with the essentials of the Accreditation Council for Continuing Medical Education, but need not be identical. It gives the states leeway to modify the essentials according to their own circumstances. The document established a Committee on Review and Recognition of State Medical Societies as Accreditors of Continuing Medical Education Providers. Each state medical society will be assessed $250 annually to cover the committee's expense.

THE AMA WILL URGE Congress and the secretary of Health and Human Services "to take an extremely cautious approach" to the diagnostic related groups (DRG) method of prospective hospital reimbursement. The House of Delegates also called on HHS to broaden its experimental reimbursement formula beyond the DRG concept, to implement the DRG concept on an experimental basis only, and to restrict implementation to selected areas before imposing DRG on the nation's health care system. DRGs offer average time parameters, among other things, for hospital stays. Hospitals are reimbursed upon those averages rather than upon actual lengths of stay. HHS has indicated it may want to implement DRGs nationally for the Medicare program.

THE AMA WILL EXPAND assistance to physicians and medical societies involved in peer review activities. A new federal law repeals the Professional Standards Review Organizations program and replaces it with the Utilization and Quality Control Peer Review Organizations program. The House of Delegates called for the AMA to work to strengthen those elements of the new program that are consistent with current AMA policy, to seek modification of those mandatory elements that are not consistent with existing policy, and, if these efforts fail, to seek repeal of the new law. In recommending assistance to physicians and medical societies, which are now eligible to contract as review organizations, the House cited assistance in negotiating contracts that would retain professional direction and control with appropriate emphasis on quality rather than cost.

THE HOUSE OF DELEGATES voted to establish a Hospital Medical Staffs Section to provide medical staffs with a national forum and direct access to the AMA policymaking body. The section will have a delegate and an alternate delegate and will function with a governing council. The House urged state and county societies to work with medical staffs to facilitate participation in the section, noting that a possible model would be a Hospital Medical Staff Section at each state House of Delegates annual meeting and a Hospital Staff Liaison Committee in each county medical society. The section will be organized as an open assembly, with each hospital medical staff eligible to send one elected representative. Representatives must have clinical privileges at their institutions, be members of the AMA, and will be encouraged to become members of their state and county societies if not already members.

DELEGATES VOICED vigorous opposition to regulations that would impose limits for reimbursing physicians' services under Medicare Part B. The government proposed the regulations as a means of implementing a provision in the Tax Equity and Fiscal Responsibility Act (TEFRA) that distinguishes between physician services provided to individual patients and those services that are provided for the "general benefit (of) patients in a hospital or a nursing facility" for the purpose of allocating costs between Parts A and B. The House said the proposal would redefine the practice of medicine by substituting hourly wages or annual salaries for present reimbursement mechanisms. It called for AMA opposition to the TEFRA regulations through Congress, with the Administration, and in the courts.

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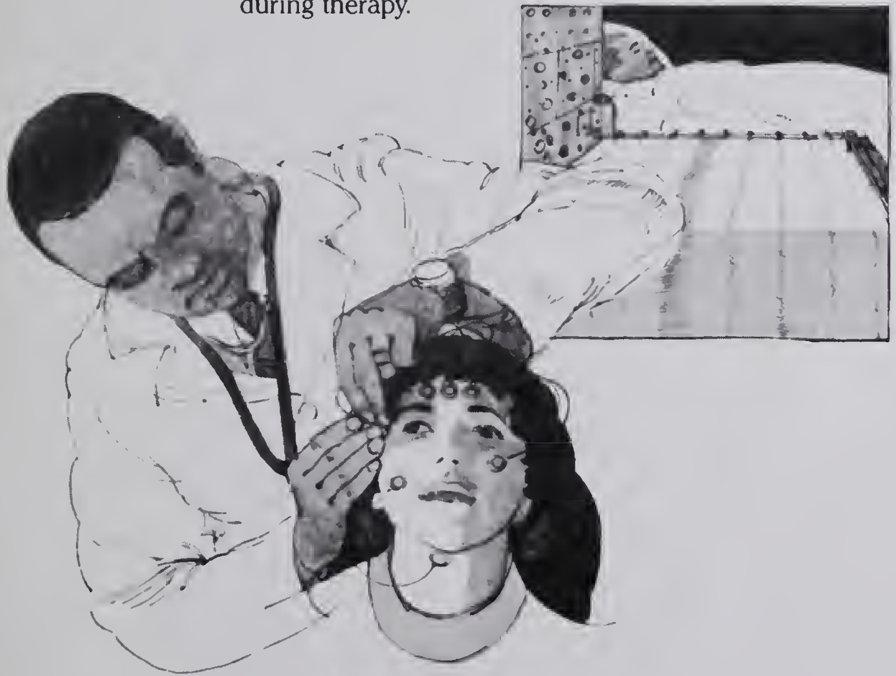

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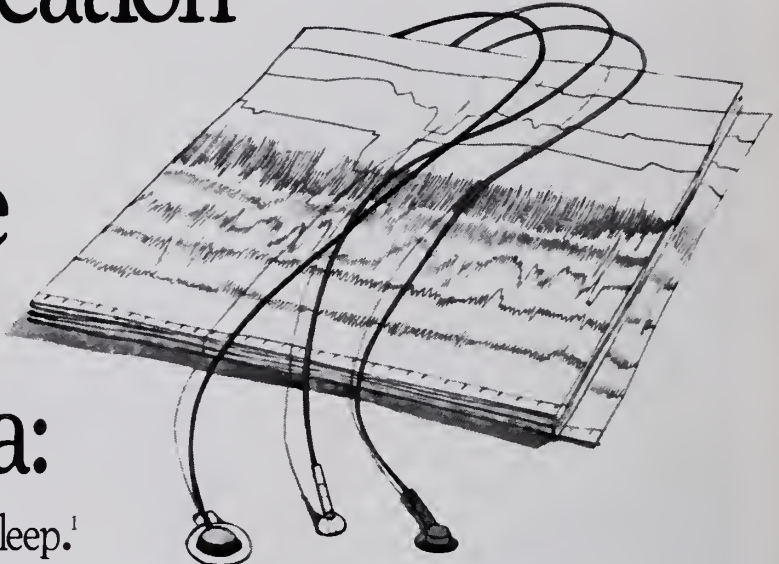

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Missouri Medicine

Vol. 80, No. 3 (ISSN 0026-6620) March, 1983

Special Article

DIOXIN EFFECTS ON HUMAN HEALTH

The Professor and the Pigeon

Psittacosis in the Groves of Academe

Special Issue on Infectious Diseases

Campylobacter Enteritis

Case Report

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Acute Respiratory Failure Due to Atypical Pneumonia

Missouri State Medical Association

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March 1983

PROGRESS NOTES

missouri state medical association

1982 MSMA Membership Declines

In 1982, for the first time in memory, membership in the Missouri State Medical Association declined. In addition, the number of physicians and students choosing to join AMA through MSMA, thus joining all levels of organized medicine, dropped by 349.

At the January 29 Council meeting, a membership report by MSMA Assistant Executive Secretary C. C. Swarens also revealed that currently the total number of physicians and students choosing to belong to the AMA but not to MSMA or their local medical society stands at 1,019.

Several possible explanations for the problem were cited, including cost. For example, physicians in Cape Girardeau receive a $745 annual dues statement from MSMA ($315 MSMA, $265 CGCAMS, $40 MMPAC). In St. Louis, physicians are billed for $730; in Jackson County, $685; and in Greene County, $710.

If a physician is slow in paying his/her dues and extends beyond the AMA's delinquency date, the AMA then sends that physician a delinquency notice for a total of $315. Some of these former members of the Federation then become "direct" AMA members at a much lower cost.

Non-members of organized medicine in Missouri are annually solicited for membership by the MSMA and local societies in July/August for half-year dues or about $250-$350. However, the AMA now solicits non-members "direct" in June for half-year dues of $117.50. The AMA mentions that Federation membership is preferable, but gladly accepts the direct payment.

Another possible cause for declining membership in MSMA is visibility. Physicians are aware of what the AMA does due to their publications, programs, etc., but probably more importantly, because of its national efforts which results in national news coverage.

MSMA, meanwhile, offers similar benefits and services on the state level, but is not in the forefront of the minds' of the public or physicians.

In addition to these possible causes, MSMA has historically (and due to bylaw limitations) depended upon local societies to solicit membership and is reluctant to "usurp the turf" of local societies.

Also, some local societies still have long "waiting periods" for applicants. Rather than wait, some physicians now join AMA direct and it is difficult to later get them to join the entire Federation.

MSMA is now resolved to work harder to explain its value to potential members and to find the "key" to promoting its benefits and services to Missouri physicians. A proposed resolution on increasing membership will be addressed at the 1983 Annual Convention on March 17 at Tan-Tar-A.

Definition of "Physician" Strongly Opposed by MSMA

MSMA President John I. Matthews, M.D. recently responded to the January 4, 1983 Health Care Financing Administration's (HCFA) proposal to revise conditions of hospital participation in Medicare and Medicaid when the hospital is not accredited by the Joint Commission on Accreditation of Hospitals.

The proposal would redefine the term "physician" to include doctors of medicine, doctors of osteopathy, dentists, podiatrists, optometrists and chiropractors.

In his letter to Carolyne Davis, HCFA administrator, Dr. Matthews strongly urged the HCFA to delete this new definition from its proposal. "We believe that the definition is improper for use within the context of acute care general hospitals and completely fails to recognize the need for medical supervision and responsibility for inpatient care," Dr. Matthews wrote.

Copies of Dr. Matthews' letter were also sent to Missouri's two U.S. Senators and congressional delegation.

Medical Legislation Moves Closer to Becoming Law

Several proposed legislative issues of interest to medicine are progressing through the Missouri General Assembly and, with early action completed, could be adopted into law prior to the June 15 adjournment.

Bills already approved by Committees for floor action include those which would require auto restraints for children under 4-years-old, set a three-year moritorium on construction on new hospital and nursing home beds in Missouri, mandate medical care to prolong the lives of handicapped infants, establish a Cancer Reporting System in the state and change statutes to provide the Ellis Fischel State Cancer Center with additional powers to increase income.

House Bill 29 would require parents and legal guardians of children under the age of four to place the child

See Legislature, page 2

Cost of Medical Care Rises 11 Percent

The cost of medical care increased 11 percent last year, nearly three times as much as the overall consumer price index. The all-items CPI rose just 3.9 percent, the smallest increase in a decade.

The 11 percent inflation rate experience in the health care field was the third highest since the government began reporting on medical costs in 1935. The rate was 12.4 percent in 1974 and 12.5 percent in 1981. Labor Department economists accounted for the slight decrease in 1982 by observing that some physicians and other providers held down their fees because they knew that some of their patients could not afford their services.

PERCENTAGE CHANGES IN SELECTED COMPONENTS
OF THE CONSUMER PRICE INDEX (SERIES CPI-U)

Selected Items	Nov. '82-Dec. '82	Dec. '81-Dec. '82	Annualized Change Last 5 Years (Dec. '77-Dec. '82)
All Items	−.4	3.9	9.5
All Services	−.9	4.3	10.9
Food and Beverages	.0	3.2	7.8
Housing	−.8	3.6	10.5
Transportation	−.3	1.7	10.5
Medical Care	.6	11.0	10.5
Medical Care Commodities	.4	9.6	N.A.
Prescription Drugs	.9	12.0	10.0
Medical Care Services	.6	11.2	N.A.
Physicians' Services	.4	7.5	9.5
Dental Services	.3	5.9	8.7
Hospital Room	.3	13.3	13.5

Legislature Needs More Physician Input

continued from page 1

in an approved child restraint when travelling in a motor vehicle.

The state's purported over-bedded situation is addressed in House Bill 825, which would prohibit additional new hospital and nursing home beds for about three years. It would not affect those projects currently underway.

In response to the infamous "Baby Doe" case where an Indiana court ruled that the parents of a handicapped infant could deny that infant of nutrition, Senate Bill 237 (and House Bill 225) would mandate that parents must provide nutrition and medical care to handicapped children.

Senate Bill 188 (and House Bill 529) would establish a Cancer Reporting System which would require physicians of hospitalized cancer patients to obtain certain information on those patients and provide it to the hospital administrator. The administrator would be responsible for reporting the cases to the Division of Health.

The attempt by Ellis Fischel State Cancer Hospital to become self-supporting and independent of state funding is addressed in Senate Bill 307, which provides the Center's governing board more power in the areas of purchasing goods and services, leasing land and employee relations.

Other bills of interest to medicine which are awaiting floor action include Senate Bill 227, which expands the peer review immunity statutes; Senate Bill 30, which is modeled after the federal government's drug tampering laws; and House Bill 265, which would permit Missouri to join in a Midwest low-level radioactive waste compact with surrounding states.

Measures expected to be acted upon by legislative committees include House Bill 450, which would allow LPN's to administer intravenous fluid infusions under supervision of R.N.'s or physicians; and Senate Bill 336, which would permit appropriately trained employees of a certified end-stage renal disease facility to initiate dialysis under the supervision of a physician or RN.

Many other issues could emerge in the next few weeks and, depending on their popularity, move toward final approval. Some of these could be the licensure of any of about 10 allied health groups, allowing nonphysicians to practice acupuncture and the elimination of patient-physician confidentiality in testifying in criminal cases.

MSMA members are reminded that most groups appearing before the Missouri General Assembly are "single issue" groups which, despite small numbers, organize very effective campaigns to gain approval of their particular issue. They work hard to get personal contact with each Representative and Senator.

Physicians, meanwhile, have apparently come to believe that someone else will take care of their interests in this bothersome area. They are wrong!

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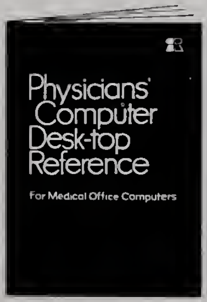
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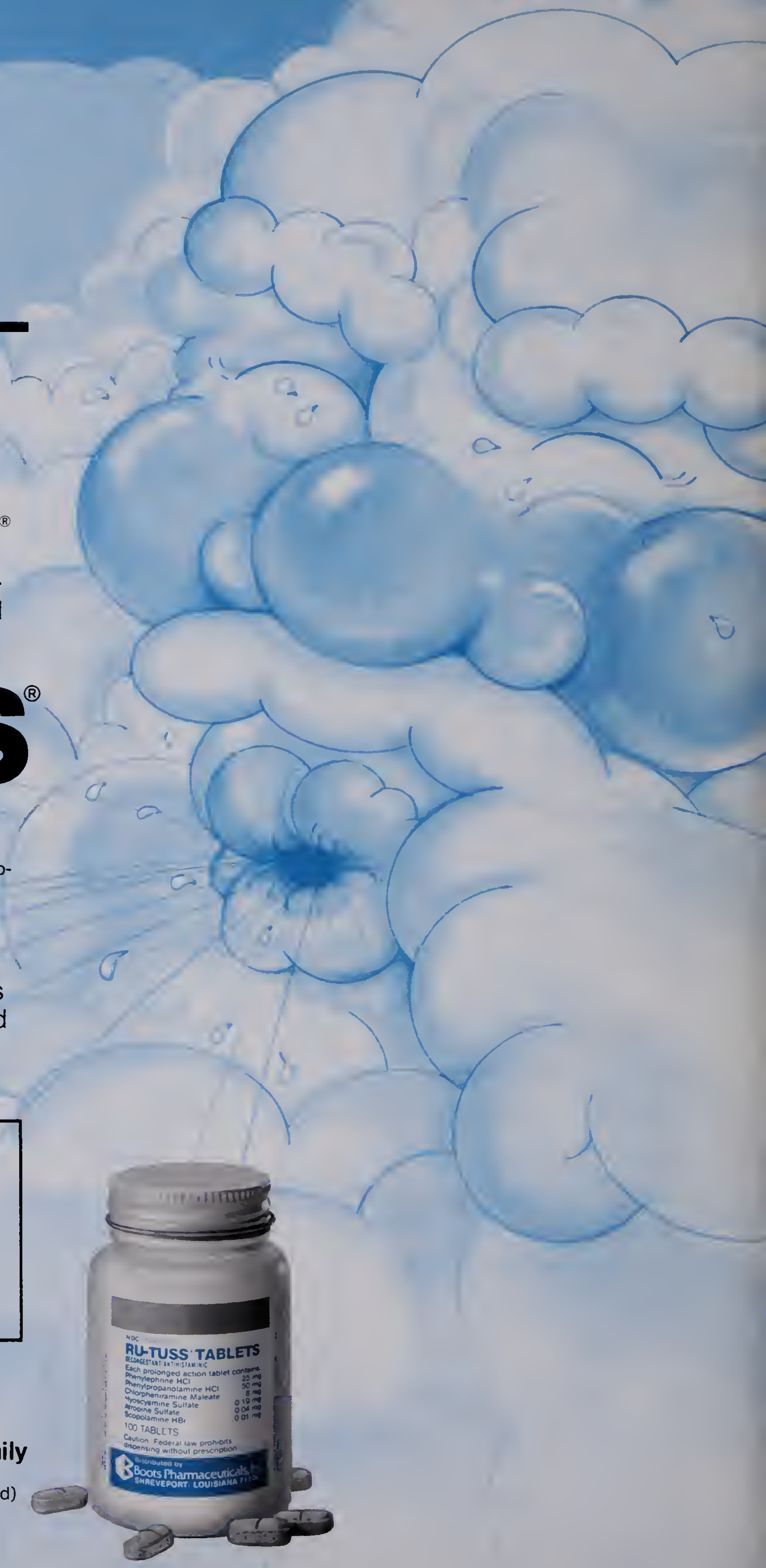
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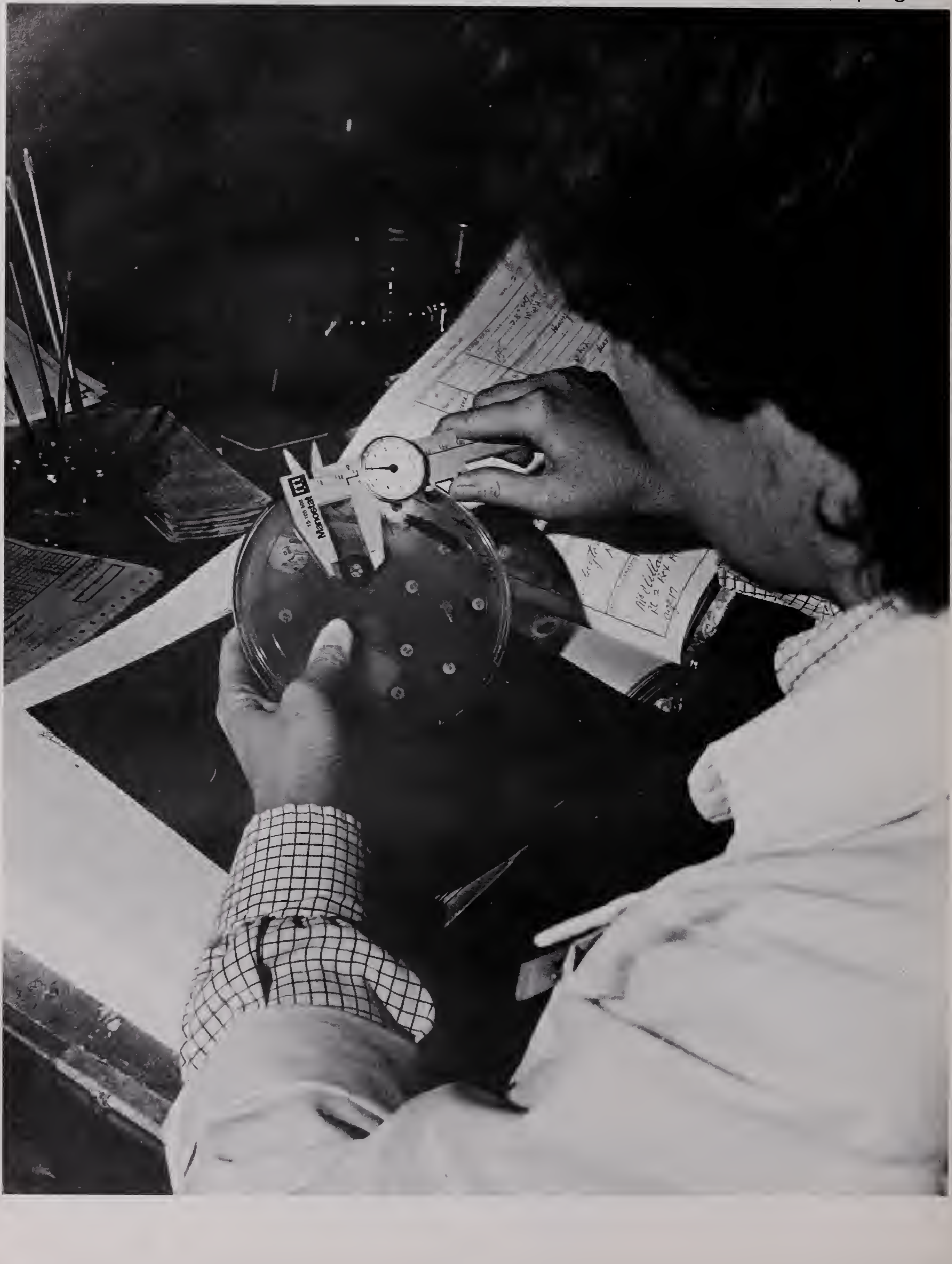

Editor's Corner

SMALL PROBLEMS

"All living creatures protect themselves vigorously from invasion by smaller organisms as they do from engulfment by larger ones." This profound observation appears in a current microbiology textbook. The human race seems to have been freed of half of this problem. Our ancient forefathers had to watch out for dinosaurs and wandering hairy mammoths, but now except for an escapade with a beserk elephant, danger from larger critters is no longer of concern. Invasion by the smaller organisms — bacteria, fungi *et al* — remains a major health problem. All of this is true despite pages of advertising from drug companies proclaiming the wonders of the latest biochemical weapons against bacteria. Infection is still the leading cause of death and complications in surgery patients. Infectious diseases used to at least lend themselves to geographic classification, but with an estimated 600 million or so international travelers annually over the world, India's Dum Dum fever may now show up in Walla Walla. The influx of members of the Indochinese population into the midwest represents a close at hand situation with infectious public health potential. All this is probably just retribution for the communicable diseases that the white man brought to the Indians a few centuries ago. Even while our medical laboratories use all the latest equipment they have to help us, as Dr. Clawson's photo indicates, a number of articles on infectious diseases have been submitted to Missouri Medicine. These are grouped together in this issue; there appears to be an infection for everybody this month.

* * *

If germs are too small to be seen, then something in the dilution of 1:1 million is incomprehensively tiny. That is the dilution of dioxin that has been proclaimed toxic. There is nothing dilute about the media coverage of the dioxin scare, however. In this issue, Dr. William Dunagin of Columbia has written an article on this subject, based on his knowledge and research into the problem. The final word on dioxin is obviously not in, but perhaps this will bring the matter up to date and assert a sane medical perspective on the subject.

* * *

All the dioxin rumors, on the other hand, might be turned into a good cause. How about a whispering campaign that it has been discovered that cigarettes contain dioxin? Given enough public hysteria, a decrease in smoking just might save a lot of lives, but someone would probably come along hawking a "Dioxin Filter" and make a million dollars. So much for bright ideas.

Jordan W. Burkey, M.D.

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Special Article

Dioxin Effects on Human Health

By
WILLIAM G. DUNAGIN, M.D.
Columbia

DIOXIN, and its possible effects on health, have received an enormous amount of exposure in the popular media. Concerns were initially raised by the controversial use of the herbicide, Agent Orange, in Vietnam. The alleged harmful effects of this spray were attributed to contamination of the herbicide with small quantities of dioxin. The issue was heightened by controversies over toxic waste disposal and accidental spills, which have resulted in many lawsuits. Michael Brown, probably the best known popular writer about toxic wastes and the reporter who "exposed" the Love Canal story, has said that Missouri is the "Dioxin capital of the world."[1]

In conversations with local physicians and in second hand reports from patients of comments by their doctors, the view is often expressed that nothing much is known about dioxin. *Actually, there is a great deal of information about the effect of dioxin on health in both animals and humans. The problem is that these studies are scattered in a wide variety of publications, usually toxicology or occupational medicine journals that have a small circulation.*

Only a few attempts have been made to consolidate and summarize the information.[2-4] This article is a brief review of some of the highlights of what is currently known so that physicians can respond to inquiries from their patients.

EXPOSURE

Dioxin has been called the most toxic chemical known to man.[5] This statement refers to a specific chlorinated derivative, 2,3,7,8-tetrachlorodibenzodioxin, usually abbreviated as TCDD. In a strict chemical sense, the plain dioxin molecule without chlorine is relatively harmless. The addition of chlorine makes a more toxic molecule, with four chlorines being the worst, TCDD (Fig. 1). In the remainder of the paper, I will use the terms dioxin and TCDD interchangeably because this is the standard practice in the news media.

On a weight-for-weight basis, TCDD is one of the most toxic synthetic chemicals in terms of LD_{50} for some species of laboratory animals.[6] This fact is the basis for the claim that dioxin is one of the most toxic chemicals known. On a practical level, however, it is very unlikely for anyone to come in contact with large amounts of dioxin. It is ordinarily found in quantities described as parts per million or parts per billion. There is no industrial use for dioxin. Outside of a few research laboratories, no one intends to directly synthesize the harmful chlorinated isomers of dioxin.

The problem is that dioxin is often an unwanted by-product in small quantities of the manufacture of chlorinated phenols[7] — a group of chemicals that do have a wide variety of important uses. Small quantities of dioxin (and the equally toxic dibenzofurans) are present in the fly ash of municipal and industrial incinerators.[8] Dioxin has even been found in the mufflers of trucks and cars from combustion in diesel engines. Millions of people in industrial regions of the world are exposed to minute traces of dioxin in ordinary house dust.[8] Very small quantities of dioxin have been found in beef fat from cattle that grazed on rangeland sprayed with herbicides contaminated with low levels of dioxin.[9] Most likely, such low exposures are harmless.

The best information about human exposure to dioxin has been obtained by studying the results of several industrial accidents in which workers are exposed to chemicals. The best example in the United States was a plant in Nitro, West Virginia that produced trichlorophenol. On March 8, 1949, a violent reaction caused a relief valve to open, releasing fumes and residue from an autoclave into the interior of the building. Two hundred and eighty-eight employees and clean up workers were exposed to the material which included 2,3,7,8-tetrachlorodibenzodioxin

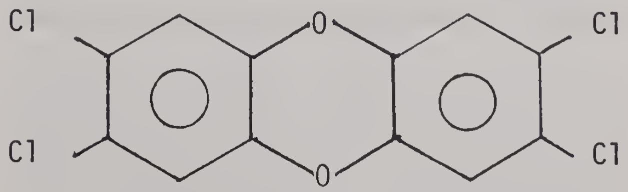

Fig. 1 Chemical structure of 2,3,7,8-tetrachlorodibenzodioxin (TCDD). The term dioxin is commonly used for this substance.

Much information about dioxin has been published recently and several definite cases of dioxin toxicity have occurred in Missouri. However, many other people who may be worried about possible exposure actually have very low absorbed doses and show no harmful effects. Dioxin toxicity has a fairly consistent pattern and is dose-related. A patient who has only subjective symptoms without any objective signs should not be considered as having true adverse effects of dioxin.

Dr. Dunagin is Assistant Professor of Medicine, Division of Dermatology, University of Missouri-Columbia Health Sciences Center and Harry S Truman Veterans Administration Hospital.

(TCDD).[10] Similar accidents involving plants that produce trichlorophenol have occurred at Ludwigshafen, West Germany in 1953;[11] Amsterdam, Netherlands in 1963; Grenoble, France in 1966; Czechoslovakia from 1965 to 1969;[2, 12] and Bolsover, United Kingdom on April 23, 1968.[13] Health effects from all these accidents have been reported in foreign medical journals. On July 10, 1976, an explosion in a trichlorophenol plant at Seveso, Italy, 20 miles north of Milan, resulted in the spread of products including TCDD over an area of 700 acres and exposing about 28,000 people. Seven hundred thirty-three people were in the most heavily contaminated area. A large epidemiologic screening program was established by the Lombardy regional government, and the results of the acute effects of exposure have been published.[2, 3, 14, 15]

In 1970 and 1971, a company in Verona, Mo. used trichlorophenol in the manufacture of hexachlorophene. In 1972, the company went out of business after the FDA restricted the use of hexachlorophene to prescription only. Through a round-about sequence of events, oily wastes contaminated with high levels of TCDD, which had been stored at the site, ended up being sprayed on several horse arenas throughout Missouri for the purpose of dust control. The effects on animals and humans at one horse arena were published in 1975.[16] Soil from this site has shown the highest level of TCDD of all the environmental contamination areas tested to date, about 30 parts per million.[17] The full extent of the unauthorized disposal of dioxin in Missouri is unknown.

Millions of people in industrial regions of the world are exposed to minute traces of dioxin in ordinary house dust.

The average soldier in Vietnam was probably exposed to extremely low concentrations of TCDD, if any, compared to the preceding categories. A total of 11 million gallons of Agent Orange was sprayed on 3½ million acres in South Vietnam between 1965 and 1971. The average concentration of TCDD in the spray was 2 parts per million. The estimated seven-year total amount of TCDD for all of South Vietnam was 170 pounds,[18] compared to the estimate of 20 pounds for one horse arena in Moscow Mills, Mo.[3] Spraying missions almost always occurred when allied troops were not present; in fact, fighter aircraft usually strafed the ground preceding the spraying aircraft.

Most veterans claim exposure by walking through vegetation. TCDD is degraded by ultraviolet light, and studies show that it cannot be detected on vegetation after one day of sunlight.[19] Dioxin, in low concentrations, can also be degraded by soil bacteria.[20] The actual dose that would penetrate through human skin by brushing against vegetation is conjectural.

The personnel actually involved in the spraying program, Operation Ranch Hand, would likely be exposed to much higher levels than other soldiers. The armed services are conducting an epidemiologic study of personnel involved with Operation Ranch Hand. The preliminary results should be available in May, 1983. If no adverse effects are noted in this group who worked with the chemical daily, then it would be very unlikely for the average soldier who had much less exposure to have any effects.

Health Effects in Humans

Thousands of people with known definite exposure to dioxin have been observed; some have been followed for 30 years after industrial accidents at Nitro, West Virginia and Ludwigshafen, West Germany. The only disease which unequivocally follows exposure is a rare skin condition known as chloracne. Many other reported conditions must be examined in detail from one report to another. Using the accident at Nitro as an example, one can separate immediate, delayed and long-term effects.

Immediate Effects

Immediate symptoms at Nitro were irritation of the skin, eyes and respiratory tract and headache, dizziness and nausea.[10] These symptoms were probably due to other chemicals, such as chlorinated phenols, present in the reaction mixture in much higher concentrations. The accident at Bolsover, England, resulted in different symptoms. In this case, workers were not exposed to vapors from the explosion. The explosion occurred at night and the plant was closed for ten days. When work was resumed, no immediate effects were noted. The first abnormality detected was chloracne, mostly in fitters, plumbers and electricians. Subsequently, it was shown that TCDD was present in greasy deposits on the walls, roof and other surfaces of the plant. The 79 workers who developed chloracne were the ones most likely to come into direct contact with such surfaces.[13, 21] Some other cases in which there were no immediate effects of dioxin exposure include two laboratory scientists in Britain[22] and large numbers of people at Seveso, Italy. Apparently, exposure to low or moderate amounts of dioxin does not produce immediate symptoms.

The Italian medical commission which thoroughly studied a large number of people at Seveso concluded that chloracne was the most frequent and reliable indicator of TCDD exposure.

Delayed Effects

Chloracne usually begins four to eight weeks after exposure. This is the most consistent finding and has been reported in all the studies of known dioxin exposure. The Italian medical commission, which thoroughly studied a large number of people at Seveso, concluded that chloracne was the most frequent and reliable indicator of TCDD exposure, and its incidence was proportional to the level of exposure.[3] Chloracne is a persistent condition that may last for a year or two after exposure. Some cases last longer, and one has been noted 15 years after an industrial accident.[13] Chloracne consists primarily of open comedones with a low proportion of inflammatory lesions versus acne vulgaris. In addition, chloracne occurs in many skin locations such as the pinna where acne vulgaris is unusual.[23]

Chloracne appeared in 122 of 288 workers at Nitro after a delay of a few weeks. Other delayed symptoms were muscle pains, fatigue, nervousness, decrease in libido, dyspnea, vertigo and cold intolerance.[10] Some of these symptoms may have been due to phenols and other chemicals in the reaction mixture. Some symptoms are common everyday complaints, are difficult to quantify and are not consistently present in other studies. Very few objective findings were reported. At Bolsover, England, even though many of the chloracne cases were severe and persisted up to four years, no other ailment that could reasonably be attributed to dioxin were found.[13] In particular, monitoring of results of liver function tests and urinalyses were normal.

After the accident at Ludwigshafen, 66 of 74 workers developed chloracne. Twenty-one of the most severely affected had other complaints related to polyneuritis, sensory impairment or liver damage. Again, there were many other chemicals beside TCDD in the reaction mixture. Signs of porphyria cutanea tarda were noted in several workers.[11] PCT was also noted after industrial exposure in Czeckoslovakia[2] and an unspecified plant in the USA.[24, 25] Most of the signs of PCT are cutaneous: fragility of the skin, blisters, hirsutism and hyperpigmentation. Hirsutism and hyperpigmentation were also noted in two laboratory scientists doing research on TCDD in Great Britain.[22] Although no porphyrins were detected in the urine, the descriptions are compatible with PCT and, perhaps, the diagnostic tests were not as accurate as current ones.

After the accident in Seveso, Italy, no clinically evident PCT was found, but subtle changes in urinary porphyrin ratios were detected in some patients.[26] TCDD is a potent inducer of the enzyme delta-aminolevulinic acid synthetase, which is the first step in the formation of porphyrins.[27] So, there is a good theoretical explanation for the occurrence of PCT after dioxin exposure.

Dioxin toxicity has a fairly consistent pattern and is dose-related.

Symptoms of neuresthenia (lack of vigor, sleep disorder, etc.) have been reported in several studies. Although these symptoms are subjective and difficult to quantify, they do seem to be significant in persons likely to have large exposure to the chemical as shown by chloracne. There have been some reports of objective neurologic signs such as weakness of the lower extremities and nerve conduction deficits of the demyelinization type. However, at Seveso, most people who had these changes were over 55 years old and had other possible predisposing conditions, such as

More About the Author

A Topeka, Kan. native who graduated summa cum laude from the University of Kansas, Dr. Dunagin finished his medical schooling at the same institution in 1975 and his dermatology residency at the University of Missouri-Columbia School of Medicine.

Dr. Dunagin became a Diplomate of the American Board of Dermatology in 1979 and his professional society affiliations include Fellow, American Academy of Dermatology and membership in the Society for Investigative Dermatology, American Dermatologic Society for Allergy and Immunology and the Missouri State Dermatological Society.

Among his other published articles are "Drug Eruptions" (with co-author L. E. Millikan, M.D.) in the Journal of the Medical Clinics of North America *in 1980 and "Clinical Toxicity of Chemotherapeutic Agents: Dermatologic Toxicity" in* Seminars in Oncology *in 1982.*

diabetes or nutritional impairment.[3] Two people who operated one of the horse arenas in Missouri developed symptoms of headache and nausea four days after the arena was sprayed with waste oils containing dioxin. Later, they developed chloracne. Two children who played in the area had headaches, diarrhea, epistaxis and chloracne. One developed an acute hemorrhagic cystitis, which required hospitalization but resolved in three days.[3, 16, 17, 28]

An extensive epidemiologic study was conducted after the release of dioxin at Seveso, Italy. One hundred eighty-seven cases of chloracne were discovered, mostly in the zone with the highest levels of dioxin. There was some question about neurologic findings discussed above, but few other significant problems were found. The Seveso Medical Commission looked extensively but found no evidence for hepatotoxicity, congenital malformations, spontaneous abortions, chromosome aberrations, immunosuppression, susceptibility to infection or overall death rate.[3, 14, 15]

Other delayed effects that have been reported occasionally after dioxin exposure include muscular pain, hypercholesterolemia, hepatic enzyme elevation, conjunctival irritation, prolonged prothrombin time and blurred vision. These effects are not reported frequently and may be due to incidental disease, dioxin or other chemicals and irritants in the industrial setting.

The subjective and objective findings that have been reported consistently in patients with known dioxin exposure are listed in Table 1. There are very few cases of high level exposure. The problems listed for the high category should not be taken as firm or exhaustive. Some are based on only one or two cases in humans and analogies to animal toxicity.

LONG-TERM EFFECTS

Another major concern about dioxin is the possibility of inducing cancer. The evidence from animal studies is conflicting. The Ames test is positive in some strains of bacteria but not in others.[4] Cultured mammalian cells have not shown mutagenic responses.[4] Some strains of laboratory animals develop cancers after continuous dioxin feeding, but the dosage level required is so high that multiple organ toxicities are produced.[2] The thymus is particularly susceptible, and the problem may be decreased immune surveillance. No particular type of malignancy has been found consistently.

In long-term follow-up of human exposure, no increase has been noted in overall mortality. Thirty-year follow-up of 122 workers at Nitro, W. V. showed no excess over the expected rate of malignancy.[10] Follow-up of 74 workers exposed to dioxin at Ludwigshafen, West Germany showed three deaths due to stomach cancer, with less than one expected statistically.[11] No other

TABLE 1
DIOXIN TOXICITY

Amount of Exposure	*Subjective Symptoms*	*Objective Signs*
Low	**Headache** **Fatigue**	**Chloracne**
Moderate	**The above plus** **Neuresthenia** **—depression** **—lack of vigor** **—sleep disorder** **—loss of libido** **—profound weakness** **Nausea** **Muscle pains** **Lack of concentration** **Anorexia**	**The above plus** **Porphyria cutanea tarda** **—blisters** **—fragility of skin** **—hyperpigmentation** **—hirsutism** **Sensory peripheral nerve impairments** **Nerve conduction abnormalities**
High	**The above plus** **Abdominal pain**	**The above plus** **Hepatic necrosis** **T cell depression** **Bleeding tendency** **Diarrhea** **Prolonged prothrombin time**

disease or type of malignancy was increased compared to control populations. No increase in stomach cancer has been found in any other study.

The other question about human cancer concerns soft-tissue sarcomas. This question was initially raised by a study of Swedish forestry workers exposed to phenoxy herbicides. An increase in soft tissue sarcomas was noted in workers using herbicides contaminated with dioxin. However, a similar increase was also noted in workers using herbicides that were not contaminated with dioxin.[29] Furthermore, studies of Swedish agricultural and railroad workers and studies of forestry workers in Finland and New Zealand who used the same herbicides did not show any increase in malignancy. One patient who developed chloracne after the accident at Nitro died 29 years later of malignant fibrous histiocytoma.[10] Two people who worked at other plants producing phenoxy herbicides have died of fibrosarcoma and liposarcoma. Some people have suggested that these three soft-tissue sarcomas are more than expected by chance.[29] However, no soft-tissue sarcomas have been detected after any of the industrial accidents in Europe.

SUGGESTED EVALUATION FOR DIOXIN EXPOSURE

Many patients who claim exposure to dioxin have been exposed to such low quantities, and even lower absorbed doses, that they do not have any real toxicity. It is important to separate those people who have only psychosomatic complaints from those who have true toxicity. Every patient should have a dermatological evaluation for chloracne and porphyria cutanea tarda. Serum chemistry profiles and prothrombin time should rule out hepatocellular damage. A 24-hour urine collection for uroporphyrins should be done. A spot check of urine for uroporphyrins is not reliable. Muscle weakness or neuritis symptoms should be evaluated by electromyography and motor conduction velocity. Immunologic evaluation may be considered in someone with other organic disease and high exposure.

SUMMARY

A large number of people with definite exposure to dioxin have been reported in the medical literature. The consistent effects which can reasonably be attributed to dioxin are listed in the table. Chloracne is the most significant of the objective signs, occurring in most cases of true toxicity. Chloracne is a distinctive entity which may occur from topical or systemic absorption, and differs from acne vulgaris and from acneiform eruptions secondary to topical tar or oil.[23] It may occur in pre-pubertal children and the elderly. The amount and tone of news coverage of dioxin may have a significant power of suggestion, and many patients attribute psychosomatic complaints to dioxin. However, a patient with no objective signs of dioxin toxicity should not be considered as having true adverse effects of dioxin.

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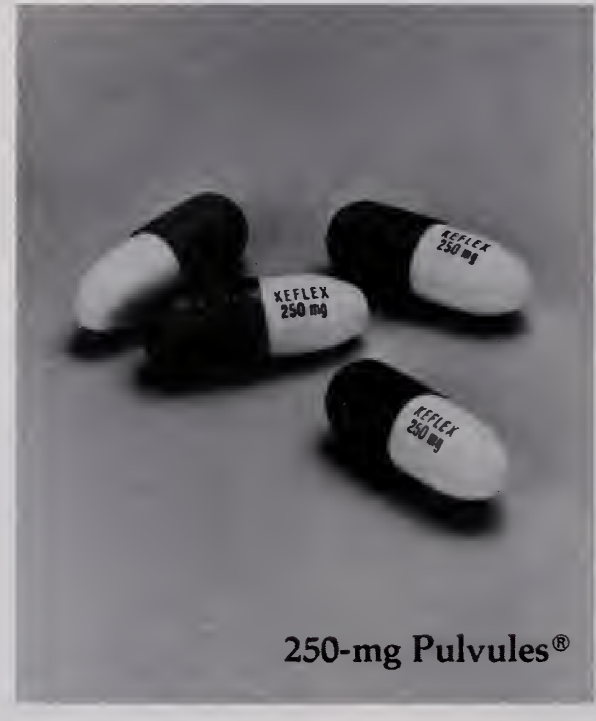
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Volume 80, Number 3 — March, 1983

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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J. JOSEPH MARR, M.D., *St. Louis*

The Professor and The Pigeon

Psittacosis in the Groves of Academe

Psittacosis is an avian zoonosis with sporadic transmission to man. Such transmission usually occurs among individuals who have more intimate contact with birds, such as veterinarians, zoo workers, pigeon fanciers and pet shop employees. Occasionally, transient exposure to an apparently healthy bird can serve to transmit the agent, *Chlamydia psittaci*, to an unsuspecting individual. The resulting disease can be serious.

Case Report

A 50-year-old white, male physician, who had been in excellent health, developed chills and high fevers six days prior to admission. Fevers were as high as 104 F and so unrelenting that he was taking aspirin or Tylenol every four hours. In addition, he experienced easy fatigability and anorexia. Four days before admission, a dry cough developed and the malaise worsened. Examination results show that his vital signs included blood pressure, 110/66 mm Hg; pulse rate, 66 per minute; respiration rate, 22 per minute; and temperature, 101.5 F. He was an ill-appearing, weak-acting individual with normal physical examination results except for the presence of crepitant rales in the anterior portion of the right upper chest.

After further questioning, it was discovered that 14 days before admission and eight days before his symptoms began, he was working in his laboratory and attempted to bleed two pigeons. The birds, enraged by this, attempted to escape; one was successful. During the ensuing 30 to 45 minutes, the patient and four coworkers chased the bird around the laboratory. After it was caught, it and the other bird were bled and the carcasses incinerated.

Laboratory data showed no abnormalities except for a white blood cell count of 5,300 with 51% stabs, a bilirubin value of 1.6 mg/100 ml and a chest x-ray that confirmed the presence of an anterior segmental pneumonia in the right upper lobe. A presumptive diagnosis of psittacosis was made and the patient was started on a regimen of 1 gm tetracycline orally every six hours for the first three days and then 500 mg every six hours thereafter. There was a remarkable clinical improvement during the first 24 hours and the fever disappeared within 48 hours. After three days, the patient was well enough to be discharged home where a ten-day course of tetracycline was completed.

Results of other diagnostic studies, which were negative, included febrile agglutinins, cold agglutinins and a Proteus OX-19 titer. The serologic studies for psittacosis of the patient's serum, that of his laboratory coworkers and the pigeon are shown in Table 1.

Discussion

The clinical course of psittacosis is variable in its manifestations.[1-4] This protean illness may appear as pneumonia, aseptic meningitis, or an enteric fever, although the most common clinical

TABLE 1
CLINICAL AND SEROLOGICAL DATA

Date	*Event*	*Titer*
3/ 1/81	Exposure to pigeon	—
3/ 8/81	Onset of fever and chills	—
3/14/81	Admit to hospital	< 1:8
3/16/81	Clinical improvement	1:16
3/26/81	D/C tetracycline; asymptomatic	1:64
4/ 6/81	Asymptomatic	1:64
Four laboratory coworkers		< 1:8
Pigeon		1:64

The clinical course of psittacosis is variable in its manifestations and may appear as pneumonia, aseptic meningitis or an enteric fever. The most common clinical presentation is described by the author who discusses the sporadic transmission of this disease to man and includes a case report.

Dr. Marr was Director, Division of Infectious Diseases, St. Louis University School of Medicine at the time this paper was submitted. He now holds this position at the University of Colorado Health Sciences Center, Denver.

presentation is that described. The marked systemic symptoms with an associated bradycardia are characteristic of this malady though they may occur with other intracellular infections such as salmonellosis, tularemia and brucellosis. The respiratory tract is the usual portal of entry of the agent and infection usually occurs by inhalation of dried bird excreta or the handling of contaminated plumage or poultry flesh.[5, 6]

Since there was no evidence of excretion of either urine or feces by the pigeon, infection in this instance must have occurred by inhalation of aerosols from contaminated plumage. The persistent, moderately productive cough usually associated with this disease was not a prominent symptom in this individual although the anterior segmental pneumonia was clearly audible on chest examination.

The distribution of psittacosis is worldwide and any species of bird can serve as a host.[6, 7] Cases in humans have been associated with avian pets of all types, birds kept in zoos, and in poultry. There has been a decline in cases over the past two decades, presumably due to the incorporation of tetracycline-medicated poultry feed and requirements for quarantine of imported psittacine birds before entry into the country. The degree of contagiousness among birds and from bird to man is unclear. Since infected birds may be asymptomatic and shed the agent for months, an accurate assessment of the extent of infection in birds is difficult.

This pigeon is an example since it was healthy yet had a serologic titer of 1:64 to the agent. It was captured, along with several other pigeons, at the St. Louis Zoo and showed no signs of disease. None of the other birds in captivity or any of the handlers at the Zoo have had a disease that could have been psittacosis. The variability in contagiousness from bird to man is illustrated by this case since five people were exposed in the same room under the same conditions. Yet, only one individual had serologic evidence of infection. This individual was approximately 25 years older than other persons in the room. Aside from this, however, there were no important differences among the laboratory personnel.

The effect of treatment with tetracycline was dramatic and the patient became afebrile within 36 hours. Within 24 hours, his sense of well-being had returned and he was able to get out of bed and eat. His rapid recovery continued until he went home four days after the institution of therapy. At this time, he returned to a relatively normal work schedule while continuing to take the medication but underwent a rapid clinical reversal. The malaise returned almost immediately and was accompanied by a remarkable weakness and lassitude. By enlisting the aid of his wife and family, we were able to confine the patient to bed for another week. This brought about an immediate clinical improvement. The relationship between the premature onset of physical activity and reactivation of clinical symptoms was most dramatic.

Acknowledgement: This author wishes to express appreciation to the members of the Division of Allergy and Immunology of the St. Louis University School of Medicine for their inadvertent participation in this experiment.

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Reprints: J. Joseph Marr, M.D., Director
Div. of Infectious Diseases B168
University of Colorado
Health Sciences Center
4200 E. 9th Ave.
Denver, CO 80262

BALVANT K. GANATRA, M.D., FRANS S. HANDOYO, M.D.
and WILLIAM A. KNIGHT, JR., M.D., *St. Louis*

Campylobacter Enteritis

Case Report

Campylobacter fetus is the most common cause of bacterial diarrhea in the United States. Usual clinical findings are abdominal pain, bloody diarrhea and fever. Endoscopic and histologic findings may be compatible with inflammatory bowel disease. Differentiation from ulcerative colitis must be made in every case by specific stool and blood cultures for Campylobacter. The authors state that this distinction is crucial because the course, management and prognosis is so vastly different in these two diseases.

Dr. Ganatra and Dr. Handoyo are Fellows in Gastroenterology at St. Mary's Health Center and St. Louis University School of Medicine. Dr. Knight is Director, Division of Gastroenterology at the Health Center and Associate Professor of Medicine at the School of Medicine.

CAMPYLOBACTER FETUS (CF) is now recognized as an important human enteric pathogen. Reports from Scandinavia,[1] Europe,[2-13] Africa,[14, 15] and Canada[16] show that CF is the most common cause of bacterial diarrhea in these countries.

Recent case reports indicate that CF enteritis may cause bloody diarrhea and histological and endoscopic features suggestive of ulcerative colitis. Loss *et al*[17] have described a patient with segmental involvement and endoscopic and radiologic findings compatible with Crohn's colitis. A single case report of CF causing massive lower gastrointestinal hemorrhage too has recently been described.[18]

This case report shows certain features characteristic of this organism and illustrates clinical findings similar to inflammatory bowel disease and the necessity for an accurate diagnosis.

CASE REPORT

An 18-year-old white female student was admitted to the hospital with the chief complaint of bloody, loose, watery bowel movements accompanied by abdominal cramping pain of seven-days duration. The patient's illness occurred within hours after a meal in a restaurant serving Mexican food. The stools at the onset were loose and watery, but they later became watery and bloody. The frequency of the bowel movement increased to approximately ten times per day. The diarrheal symptoms were accompanied by chills, fever, anorexia with nausea and vomiting. She had no pertinent past medical or surgical history.

Physical examination showed the patient to be normally developed and nourished. The patient had a fever of 101 F; blood pressure, 106/80 mm Hg; and pulse rate, 76 per minute. Her eyes, ears, nose and throat were normal. Examination of the heart and lungs did not reveal any abnormalities. There was abdominal generalized tenderness to palpation and percussion. Bowel sounds were present but were decreased. There was no organomegaly. Results of rectal and pelvic examinations were normal. The skin, extremities and neurological examination did not show any abnormalities.

Laboratory studies showed the following values: sedimentation rate, 37 mm/hr; serum iron 18 μg/100 ml; total iron binding capacity 222 μg/100 ml; ferritin 38 ng/ml; hemoglobin, 12.5 g/100 ml; hematocrit, 36.5%; white blood count, 5000/cu mm with 15% stabs, 53% segmented neutrophils and 25% lymphocytes. The serum electrolytes, amylase and SMA-12 values were normal.

Proctoscopic examination showed a brownish, liquid stool covering the mucosa that was erythematous but not granular or friable. Specimens were obtained through the proctoscope for culture by using a sterile cotton-tipped swab. This was transported to the laboratory immediately where it was plated onto Campy Blood Agar plate (Regional Medical Laboratories, Lenexa, KS 66215). The agar plate was incubated with Campy Pak (Disposable, Catalog #71034, Microbiology Systems, Cookeysville, MD 21030) to provide microaerophyllic environment. A stool sample was obtained for ova and parasites and biopsies of mucosal specimens were obtained.

Stool cultures revealed a heavy growth of Campylobacter fetus ssp. jejuni (Fig. 1).

The interpretation of the biopsy specimens obtained at the time of the proctoscopic examination showed acute and chronic inflammatory cells in the submucosa and lamina propria with focal crypt abscesses compati-

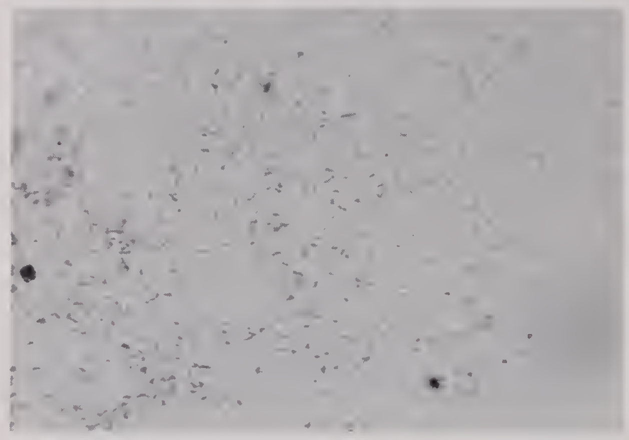

Fig. 1 Gram stain of smear of Campylobacter fetus colony shows typical gram negative curved rods.

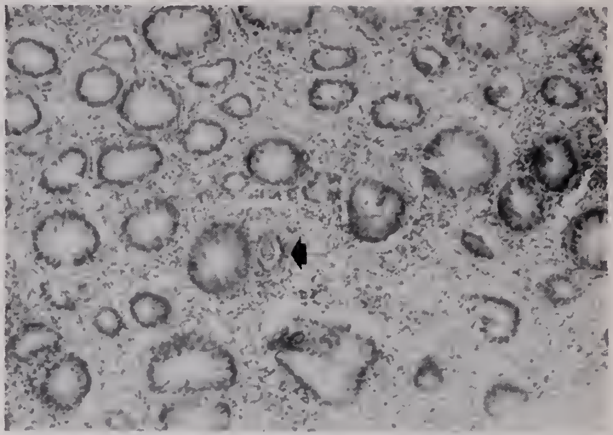

Fig. 2 H & E section of rectal biopsy shows inflammatory cells and crypt abscess formation (magnification × 40).

ble with the diagnosis of acute ulcerative colitis (Fig. 2). Biopsy specimen findings, however, may be normal or show nonspecific colitis.[18]

The patient was treated with parenteral fluids, clear liquid diet and 250 mg of erythromycin orally four times a day. The abnormal clinical findings resolved within a few days. Four weeks later, the patient remained asymptomatic.

DISCUSSION

CF is a small gram negative microaerophyllic organism previously known as Vibrio fetus. Two subspecies, CF ssp. jejuni and CF ssp. intestinalis, with slightly different characteristics are the important pathogens.

The epidemiology of Campylobacter enteritis is not yet clear. The organism is distributed widely in man's environment with sheep, cattle and avian reservoirs. Transmission via raw milk has been well established.[19] Contaminated water was responsible for a large outbreak in Vermont in May, 1978 and affected about 2,000 people. Contaminated food, especially poultry, may be an important mode of transmission. Direct contact with infected animals is another source, a significant finding being that 50% to 75% of diarrhea in dogs is due to Campylobacter.[20, 21] A fecal-oral route of transmission is suggested by outbreaks of diarrhea in nurseries. In most series, there is a preponderance in male patients with subspecies jejuni having a predeliction for infants.

The association of CF with abortion in sheep and cattle was first recognized by McFadyean and Stockman in 1909. The first case of infection in a human was reported by Vinzent in 1947. However, it was not until Skirrow in England developed a selective culture media suitable for CF isolation that the full extent of this organisms's role in the pathogenesis of human infections has come to be recognized.[22]

The pathogenesis of bloody diarrhea in this infection is poorly understood. There is diffuse hemorrhagic involvement of jejunum and ileum noted in humans and dogs at autopsy.[7, 21] Unlike Shigella, no direct invasiveness by this organism has been demonstrated. However, the recovery of CF from the blood in some patients is indirect evidence of the invasive nature of this organism. Enterotoxins, either heat-stable or heat-labile, have not been identified.[23]

Recent endoscopic studies show a mucosal appearance consistent with ulcerative colitis with patchy areas of mucosal inflammation, erythema, edema and ulceration. One case has been reported with patchy hyperemia, cobblestoning and edema with clear skip areas suggestive of granulomatous colitis.[17] Specimen biopsies of the mucosa in patients with CF infections may show acute and chronic colitis with numerous crypt abscesses.

The triad of fever, abdominal pain and diarrhea, often bloody, is the dominant clinical feature. Systemic involvement includes hepatosplenomegaly, respiratory and neurological symptoms, endocarditis, rash and joint symptoms.

In most patients, the disease is self-limited with spontaneous clearance of the organism from the stool in about seven weeks. Treatment, however, is advised for earlier resolution of symptoms, clearance of the pathogen and prevention of relapse and serious systemic complications. Erythromycin is the drug of choice in the treatment against this agent. The usual dosage employed is 250-500 mg given orally every six hours

(Continued on page 143)

ROBERT BLASKIEWICZ, M.D. *and*
DIANE CARLILL, M.D., *St. Louis*

Risk Factors for Post-Cesarean Section Endomyometritis

DURING RECENT YEARS, there has been a growing interest in the infectious morbidity following cesarean section. A review of the literature shows that many factors may be related to postoperative complications. These include the patient's parity,[1, 2] duration of labor,[1-4] duration of ruptured membranes[1-4] and the number of vaginal examinations performed during labor.[3, 5] Also noted in other studies have been the presence of obesity,[6] excessive blood loss during surgery,[5, 6] prolonged operating room time,[1, 2] or the use of internal fetal monitoring devices.[7, 8]

The purpose of this study was to identify in our patient population those risk factors associated with post-cesarean section infectious morbidity. The use of antibiotics for these complications are reviewed. The neonatal implications of these postpartum infections are discussed.

PATIENTS AND METHODS

Between July 1, 1980 and May 31, 1981, a total of 220 cesarean sections were performed at St. Louis City Hospital and the St. Louis University Clinic service at St. Mary's Health Center. During this time period, 1,978 deliveries were performed. The patient's prenatal chart and hospital record were examined. Pertinent facts regarding the antepartum and postpartum course were recorded by the housestaff. A review of the neonate's hospital record was performed at her discharge from the hospital. Prenatal records were available for complete review of 115 patients. The remaining 105 patients received portions of their prenatal care at outlying clinics or referring institutions.

These records were examined for evidence of prenatal anemia defined as a hemoglobin level lower than or equal to 11 gm/100 ml. The total weight gain from the first prenatal visit was recorded and any treatment of vaginal infection also was recorded.

The duration of labor was calculated from the onset of regular uterine contractions either by patient history or record review. The number of vaginal examinations were recorded on the labor graph.

Endomyometritis was determined on the basis of one of three criteria. A temperature of greater than 100.4 F on two separate occasions six hours apart after the first 24 hours, along with uterine tenderness, was the standard definition. Also included in the infected group were those patients who developed a temperature higher than 101.5 F within the first 24 hours with uterine tenderness and/or lower abdominal pain and those who underwent surgery for an indication of clinical chorioamnionitis.

The operating room time was determined from the anesthesia record and the blood loss was estimated by the operating surgeon. Excessive blood loss was defined as more than 1,000 cc. The hospital record was examined for the presence of postoperative urinary tract or wound infections, pulmonary complications, breast infections and thrombophlebitis. The length of the postoperative hospital stay was also noted. The preoperative and postoperative hemoglobin and hematocrit values were recorded.

Cervical cultures obtained at the time of diagnosis of endometritis were tabulated. The

In this study, the antenatal, intrapartum and postpartum courses of 220 patients undergoing cesarean section were examined in order to predict risk factors for developing postoperative endomyometritis. It was learned that patients who developed endomyometritis were more likely to deliver an infant with a gestational age of less than 38 weeks and an Apgar score less than or equal to six at five minutes. The bacteriologic results and use of antibiotics for these patients are discussed.

Drs. Blaskiewicz and Carlill are from the Department of Obstetrics/Gynecology, St. Louis University School of Medicine and St. Mary's Health Center.

TABLE 1
INDICATIONS FOR CESAREAN SECTIONS

Indications	*Number* *Endomyometritis*	 *No Endomyometritis*
Cephalopelvic disproportion	28	31
Fetal distress	21	16
Abnormal presentation	15	21
Previous cesarean	15	48
Clinical chorioamnionitis	8	0
Placenta previa	4	2
Severe preeclampsia	1	5
Active genital herpes	0	2
Uterine rupture	1	0
Prematurity	1	1
Total	94	126

TABLE 2
RISK FACTORS AND ENDOMYOMETRITIS

	Endomyometritis	*No Endomyometritis*	
Prenatal Factors			
Vaginitis	26/86	16/69	$p < 0.01$
Hgb < 11.0	17/46	16/69	—
Weight gain < 20 lb.	22/66	21/68	—
Primiparous	55/94	51/125	$p < 0.01$
Intrapartum Factors			
Labor $>$	37/84	32/109	$p < 0.05$
Ruptured membranes ≥ 12 hrs.	27/85	13/104	$p < 0.01$
Internal monitoring	33/80	81/101	—
Vaginal exams ≥ 4	44/84	45/102	—
Operating time $\geq$ 60 min.	63/92	99/122	$p < 0.05$
Excessive operative blood loss	26/85	35/109	—
Postpartum Factors			
Hospital stay ≥ 4 days	90/92	79/114	$p < 0.01$
Complications	10/91	9/114	—
Neonatal Factors			
Apgar score ≤ 5	26/96	11/131	$p < 0.01$
Gestational age < 38 wks.	25/94	28/133	$p < 0.01$
Birthweight < 2500 grams	33/93	31/130	—

choice of antibiotics for treating these patients was at the discretion of the resident and attending staff.

The neonatal records were examined for the gestational age assigned by the Dubowitz scoring system, the birth weight and the five-minute Apgar score.

The results for the endomyometritis and non-endomyometritis groups were analyzed by the chi-squared test.

RESULTS

The cesarean section rate during the time period of this study was 10.5%. The total number of patients who developed endomyometritis in this group was 94 or 42.5%.

The indications for cesarean sections are listed in Table 1. The most common indications for surgery in the endomyometritis group were failure to progress in labor, 29.7% and fetal distress, 23.2%. Abnormal presentation and a previous cesarean section each accounted for 15.9% of the surgery in this group. There were eight patients with clinical evidence of chorioamnionitis in the infected group. Repeat cesarean section was the most common indication in the noninfected group 38.1%. Cephalopelvic disproportion was present in 24.6% of the group followed by abnormal presentation in 16.6% and fetal distress in 12.7%.

The risk factors examined for endomyometritis are shown in Table 2. Evaluation of the prenatal factors revealed a significant correlation between an episode of vaginitis and the subsequent occurrence of endomyometritis. Of the 115 patients with complete prenatal charts, 26 of the 46 in the endomyometritis group had a documented vaginal infection as compared to 16 of the 69 patients in the noninfected group ($p < 0.01$). There was no significant difference between the endomyometritis and nonendomyometritis group with regard to prenatal anemia or weight gain.

Primiparous patients were more likely to develop endomyometritis. In the endomyometritis group, 55 of the 94 patients were primiparous (58.5%) whereas 51 of the 125 noninfected group (40.8%) were primiparous ($p < 0.01$).

The duration of labor was known in 193 patients. The presence of labor alone did not influence the development of endomyometritis. However, those patients who were in labor for eight hours or longer were more likely to become infected than the nonlaboring patients ($p < 0.05$). Thirty-seven of the 84 (44%) infected patients were in labor for eight hours or longer compared to 32 of the 109 (29.3%) noninfected group.

Ruptured membranes of 12 hours or more were significantly associated with subsequent infection ($p < 0.01$). An accurate estimate of the duration of ruptured membranes was available in 189 patients. The membranes were ruptured for at least 12 hours in 27 of the 85 infected patients (31.7%). Only 13 of the noninfected group (12.5%) had membranes ruptured for 12 hours or more.

The use of internal fetal monitor and the number of vaginal examinations during labor did not correlate with a morbid postoperative course.

The operating room time was known for 214 patients and was significantly longer for those patients who did not become infected. Sixty-three of the 92 patients in the endomyometritis group had a length of operation time of more than 60 minutes compared to 99 of the 122 patients in the nonendomyometritis group ($p < 0.05$).

There was no difference in the estimated amount of blood loss at the time of surgery. Similarly, comparing the need for blood transfusions due to intraoperative loss or a 2 gm or more decrease in preoperative to postoperative hemoglobin level determinations did not demonstrate a difference in the two groups. Analysis of the preoperative and postoperative hemoglobin levels or blood transfusion records was possible in 194 of the patients. Twenty-six of the 85 (30.6%) endomyometritis group had a decrease in hemoglobin level of at least 2 gm or required blood transfusions compared to 35 of the 109 (32%) noninfected patients. This difference was not significant.

The length of postoperative hospital stay was longer for the endomyometritis group. Only two of the 92 endomyometritis patients were discharged at five days or less as opposed to 35 of the 115 noninfected patients ($p < 0.01$).

There was no difference in the late postoperative complication rates of wound infections, pulmonary complications, urinary tract infections and thrombophlebitis. These complications were recorded in ten of the 94 infected patients and nine of the 116 noninfected patients.

There were 227 infants born by cesarean section in this study group including seven sets of twins. There were five stillborns. Significant neonatal correlations were obtained with a five-minute Apgar score of less than or equal to six and a gestational age of less than 38 weeks. These complications were more frequent in the endomyometritis group. Twenty-six of the 96 infants born to patients who did develop endomyometritis had a low Apgar score as opposed to only 11 of 131 patients without endomyometritis ($p < 0.01$). A birth weight of less than 2,500 gm was not associated with a greater risk of endomyometritis in the mother. However, the gestational age of the infants born to mothers with endomyometritis was less than 38 weeks in 25 of the 94. Of the 116 noninfected mothers, only 28 had premature infants.

The cervical cultures obtained in the endomyometritis group are listed in Table 3. Sixty-four patients had cervical cultures done at the time of diagnosis of endomyometritis. The most common organism recovered was the group B β-hemolytic streptococci in 14 patients (21.9%). E. coli was isolated in 12 patients (11.8%) and klebsiella pneumonia in four patients (6.3%). Three patients each grew either nontoxogenic diphtheroids or cornybacterium vaginalis. Positive blood cultures were obtained in two of 49 patients (4.5%). These organisms were E. coli and streptococci sabiard.

TABLE 3
CERVICAL CULTURE RESULTS

Organism	*Number of Isolates*
E. Coli	12
Group B β-streptococci	14
Klebsiella pneumonia	4
γ-Streptococci	4
Group D β-streptococci	3
Nontoxogenic diphtheroids	3
Cornybacterium vaginalis	3
Lactobacilli	2
Staphylococci epidermidis	2
Staphylococci aureus	1
Clostridia species	1
Bacteroides bovis	1
Fusobacterium necrophorum	1
Peptostreptococcus	1
Hemophilus influenzae	1

The antibiotics used to treat the endomyometritis group are shown in Table 4. The most frequently used initial combination was penicillin or ampicillin and an aminoglycoside in 64 of 93 patients or 74.2%. Antibiotics effective against anaerobic organisms were used initially in only four of 93 patients. Clindamycin was needed to effect a clinical cure in 27 patients (30.3%).

DISCUSSION

The recent increase in cesarean section rates has heightened concern for the infectious com-

TABLE 4
ANTIBIOTICS USED TO TREAT ENDOMYOMETRITIS

Initial Antibiotic(s)	*Number of Patients*
Penicillin and aminoglycoside	43
Ampicillin and aminoglycoside	26
Cephalosporin and aminoglycoside	9
Ampicillin alone	7
Cephalosporin alone	4
Penicillin alone	2
Aminoglycoside and clindamycin	2

plications inherent to this major surgical procedure. Efforts to decrease this morbidity shall be directed toward identifying these patients at risk and determining effective treatment measures.

In this study, a variety of prenatal, intrapartum and postpartum factors were examined in an effort to delineate differences between those patients developing endomyometritis and those without this complication. Of the prenatal factors examined, the occurrence of a vaginal infection increased the risk of developing a postpartum uterine infection. An alteration of the vaginal flora by this infection may allow the multiplication of more pathogenic bacteria and a greater likelihood of endomyometritis.

A previous study has shown an increased risk associated with prenatal anemia and obesity.[6] However, our study could not determine increased risk in the presence of either a hemoglobin level of less than 11 gm/100 ml or a weight gain of more than 20 lb.

Our study demonstrated an increased risk in patients carrying their first pregnancy beyond 20 gestational weeks. The longer labor time preceding surgery in these patients would be expected to influence their subsequent febrile morbidity. The presence of labor alone was not a significant indicator of subsequent infection. However, a labor time of longer than eight hours was significantly associated with the development of endomyometritis. This association at long labor has been repeatedly seen in previous studies.[2, 9]

Patients whose membranes were ruptured for more than 12 hours had more endomyometritis. This prolonged rupture of membranes would be expected to lead to a greater colonization of the amniotic fluid.[10] Speculation concerning this tendency to develop amniotic fluid colonization has included differing concentrations of bacteriostatic zinc-protein complexes within the amniotic fluid and a depletion of essential bacterial nutrients in the liquid amnioni.

More use of internal fetal monitoring has been implicated to a risk of introducing organisms into the uterine cavity.[4, 8] However, our findings were consistent with those of others in that the use of scalp electrodes and/or internal pressure catheters did not pose a greater risk.[11, 12]

Surprisingly, the length of surgery time was greater in the non-infected group. This discrepancy may be related to the higher rate of repeat cesarean sections and, consequently, more difficult surgeries in the noninfected group. The estimated blood loss was statistically the same in both groups. The inherent errors present in this estimate of blood loss are well recognized and more accurate estimates of blood loss may prove a difference in risk of developing an infection.

As expected, the length of hospital stay was prolonged in our infected group. Fully, one third of the noninfected patients were able to leave the hospital at or before the fifth postoperative day.

Several studies have found a higher rate of other complications, particularly wound infections in those patients with endomyometritis. This was felt to be due to colonization of the open wound with bacteria already present in the uterine cavity. Our findings could demonstrate no such association although the number of patients developing these complications was small.

A variety of bacteria can be isolated from the cervix in patients with endomyometritis. In our study, the most common organisms recovered were β-hemolytic Streptococci and E. coli. The inability of the cervical cultures to return anaerobic bacteria has limited its usefulness. Other methods of sampling the endometrial cavity, such as transabdominal or transcervical techniques, have met with varying success. Higher rates of β-hemolytic streptococci in an indigent population such as in our study group have been reported.

A larger number of antibiotic combinations were used in the endomyometritis group. Our general policy has been to use a penicillin and aminoglycoside combination as initial therapy. It is noteworthy that approximately 30% of patients started on this combination required the addition of clindamycin later in their hospital course. Recent series using antibiotic combinations that would cover anaerobic infections as initial therapy have been reported.[13] It would be of interest if the earlier use of these drugs to cover anaerobic organisms would reduce the length of hospitalization and the time to effect a clinical cure.

Infants born to mothers who subsequently had a febrile postpartum course had significantly lower Apgar scores at five minutes. *In utero* infections of the fetus have been reported to occur with both intact and ruptured membranes.[10] Concern for sepsis in the neonate as a cause of these low Apgar scores is appropriate. However the number of neonatal septic complications was too low in this series to satisfactorily comment. The low Apgar scores may also be a reflection of the longer labor times with subsequent greater stress on the infant in the infected group.

It is also of interest that more of the instances of endomyometritis occurred in pregnancies delivered at earlier lengths of gestation. It has been suggested that the bacteriostatic properties of the amniotic fluid may vary as gestation progresses.[14] This greater propensity of amniotic fluid to become colonized at earlier gestations may lead to a larger inocculum of bacteria to be introduced into the operative site and, consequently, a high infection rate.

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Campylobacter Enteritis

(Continued from page 138)

for seven to ten days. The dose of erythromycin and the use of antidiarrheal agents in addition depend upon the severity of the illness and the patient's response to therapy.

In conclusion, we describe a case of Campylobacter enteritis with histologic and endoscopic findings suggestive of inflammatory bowel disease. Differentiation must be made by specific cultures for Campylobacter in stool and blood. This distinction is crucial as the course, management and prognosis is so vastly different for these two diseases.

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Reprints: William A. Knight, Jr., M.D.
6420 Clayton Rd.
St. Louis, MO 63117

In his presidential address at the AMA Interim Meeting, William Y. Rial, M.D., said "increased professional unity, not only among members of our Federation, but among all physicians in all specialties, is now more important than ever before. It's important to our profession as a profession, and it's important to the patients we serve." He called for increased physician involvement in AMA efforts on cost effectiveness, voluntary health planning, and medicine-business coalitions. Dr. Rial recommended initiatives that would bring such organizations as the American Osteopathic Association and the National Medical Association closer to the AMA, adding: "We will all benefit by facing together what is fast becoming a new socioeconomic frontier in medicine."

GLEN E. SUTHERLAND, M.D. *and*
ROBERT SCHLICHTIG, M.D., *St. Louis*

Acute Respiratory Failure Due to Atypical Pneumonia

Case Report

Legionella species and *Mycoplasma pneumoniae* are etiologic agents of atypical pneumonia. *Legionella bozemanii* and *Legionella dumoffii* are rarely implicated as causative agents of pneumonia that is clinically indistinguishable from that caused by *Legionella pneumophilia*, the most common etiologic agent of Legionella pneumonia.[1] Legionella pneumonia is an acute pneumonic illness that can have prominent multisystem manifestations. Progression of pneumonia leads to respiratory failure in 15% of the patients.[2] Clinically apparent pneumonia often with multisystem involvement develops in 3% to 10% of persons infected with *M. pneumoniae*[3] and can occasionally lead to respiratory failure.[4]

This is a case report of a patient who developed acute respiratory failure due to an atypical pneumonia with serologic confirmation of active infection due to *L. bozemanii*, *L. dumoffii* and *M. pneumoniae*.

Case Report

A 55-year-old man was admitted to the St. Louis University Medical Center after being found unresponsive by a nursing home attendant. His past medical history showed heavy ethanol and tobacco use, a seizure disorder intermittantly treated with phenytoin, hemiparesis on the left side secondary to an old cerebral vascular accident, and dementia. Physical examination showed no abnormalities except for his mental status that improved with rehydration.

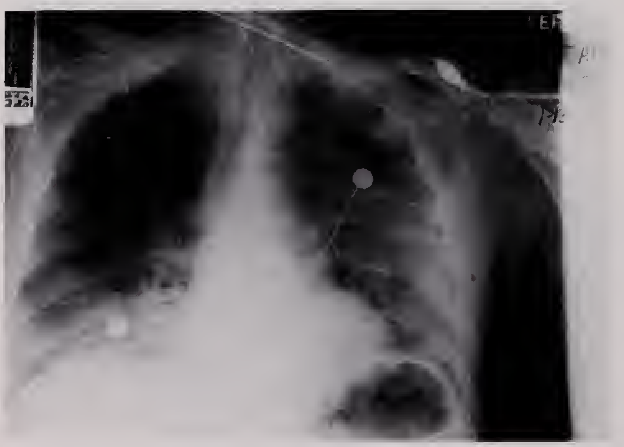

Fig. 1 Portable upright chest radiogram shows diffuse reticulonodular infiltrates in both lung fields.

By the fourth hospital day, however, he had become febrile and dyspneic. The chest radiogram showed diffuse reticulonodular infiltrates in both lung fields (Fig. 1). Gram stain of his sputum showed numerous neutrophils and gram positive cocci in chains and clusters. His sputum was stained for *Legionella pneumophilia* serogroups 1-4 with the polyvalent direct immunofluorescence antibody (DFA). It gave a 3+ positive fluorescence. Upon repeat staining with the individual serogroups, however, the results were all negative. The patient's arterial blood gas readings deteriorated from pH 7.59, PCO_2 26 mm Hg, PO_2 99mm Hg on FIO_2 of 21% to pH 7.47, PCO_2 27 mm Hg and PO_2 49 mm Hg on FIO_2 of 50%. He required mechanical ventilatory assistance. The pulmonary artery wedge pressure was 4 mm Hg.

A transbronchial lung biopsy of the right lower lobe was performed via the fiberoptic bronchoscope, and the histopathology showed numerous macrophages in the alveolar spaces but no abnormalities in the alveolar septae. Special microbial stains were negative. DFA studies were not performed.

Cultures for bacteria (including *Legionella* species but not *M. pneumoniae*) and fungi from bronchial washings grew only *Staphylococcus aureus* and *Proteus mirabilis*. Acute and convalescent (14 days) sera were sent for antibodies against common respiratory viruses, all *Legionella* species and *M. pneumonia*. Four-fold elevations in antibody titers were seen against *L. bozemanii* (1:128 to 1:512), *L. dumoffii* (1:128 to 1:512) and *M. pneumoniae* (1:10 to 1:80).

The patient was started on a regimen of 1 gm of erythromycin administered intravenously every six hours plus 60 mg of tobramycin given intravenously every 12 hours. He also received two doses of 2 gm of methylprednisolone intravenously. His pneumonia resolved clinically and radiographically after a total of 13 days of erythromycin and seven days of tobramycin medication. He continued to do well two months after his discharge from the hospital.

DISCUSSION

This patient developed acute respiratory failure secondary to atypical pneumonia. Four-fold elevations in antibody titers were found against *L. bozemanii* and *L. dumoffii* measured by the indirect immunofluorescence antibody assay and *M. pneumoniae* measured by the complement fixation antibody assay. These titers are significant. Based on this data alone, however, it is impossible to determine if the pneumonia is caused by *Legionella* species or *M. pneumoniae* or both, or if it represents crossreactivity of antibodies to a common antigen similar to that described by Wilkinson for *L. pneumophilia* and *M. pneumoniae*.[5]

The positive result of the DFA test of the sputum with the polyvalent *L. pneumophila* antisera and negative result of the DFA test with the monospecific antisera may represent crossreactivity of antibodies to a common antigen shared with *L. bozemanii* or *L. dumoffii* or, as described by Gump, with *S. aureus*.[6] Sputum and bronchial washings specimens were cultures on charcoal yeast extract agar for *Legionella* species and were negative. However, the sensitivity of this microbiological technique for the isolation of *L. bozemanii* and *L. dumoffii* is not determined. Unfortunately, respiratory tract specimens were not cultured for *M. pneumoniae*.

Despite clinical and radiographic similarities, others[7] describe significant differences that may differentiate Legionella pneumonia from Mycoplasma pneumonia. The mean age of the patient with Legionella pneumonia is 52 ± 3.3 years compared to 34.3 ± 3.1 years for Mycoplasma pneumonia. Individuals with Legionella pneumonia have shorter mean duration of symptoms before presentation (4.6 ± 0.4 days vs 12.6 ± 1.4 days for Mycoplasma pneumonia), have preceding upper respiratory symptoms less often and have unexplained confusion, delirium or stupor more often. Therefore, the patient's clinical presentation was more compatible with Legionella pneumonia and, more significantly, may be due to a *Legionella* species other than *L. pneumophila*.

The authors describe a case of acute respiratory failure due to atypical pneumonia in a 55-year-old patient. The clinical presentation was most compatible with Legionella pneumonia, but results of the serological tests confirmed a recent infection due to *Legionella bozemanii, Legionella dumoffii* and *Mycoplasma pneumoniae*. This report probably represented a patient with Legionella pneumonia due to a *Legionella* species other than *Legionella pneumophilia*, which has rarely been reported.

Both authors were from the Division of Infectious Disease and Department of Internal Medicine, St. Louis University School of Medicine at the time this paper was written. Dr. Sutherland is now in private practice in Pompana Beach, Fla.

Acknowledgements: The authors wish to acknowledge the assistance of the Centers for Disease Control for performing the indirect immunofluorescence antibody test and culturing for *Legionella* species and J. Joseph Marr, Jr., M.D. for reviewing the manuscript.

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Reprints: Glen E. Sutherland, M.D.
572 McNab Rd.
Pompana Beach, FL 33060

> Without a sense of humor, life would be a frightful experience. Even with one, it is bad enough.
>
> —W. E. WOOLDRIDGE
> Duke of Pearson Creek

ETTAYAPURAM SUNDERRAJAN, M.D., CHARLES S. BROOKS, M.D.,
and JAMES D. MALTBY, M.D., *Columbia*

Chronic Renal Failure and Extrapulmonary Tuberculosis

Case Report

A case of granulomatous mediastinitis in a patient with chronic renal failure is reported in this article. The role of computed tomography in the diagnosis of pyogenic infections of the mediastinum is emphasized. The authors discuss in detail the high incidence of extrapulmonary tuberculosis in end-stage renal disease and the difficulty of establishing this diagnosis.

Drs. Sunderrajan, Brooks and Maltby are from the Departments of Internal Medicine and Radiology, University of Missouri-Columbia School of Medicine and the Harry S. Truman Veterans Hospital.

A 27-year-old black woman was diabetic, hypertensive, with end stage renal disease for three years, and on chronic ambulatory peritoneal dialysis. She was admitted to the local community hospital with a two-week history of myalgias, frontal headache, dry cough and nausea. She also complained of fever and chills. Physical examination showed a temperature of 39 C and an enlarged right supraclavicular node. A chest x-ray done on admission showed a middle lobe infiltrate and mediastinal widening. She was treated with 500 mg of erythromycin orally four times daily for a presumed mycoplasma infection. Two days later, due to lack of response, erythromycin was discontinued and 1 gm of cefamandol given every eight hours relieved her cough. Her initial white blood cell count was 15,000/cu mm with 83% polys and 12% lymphocytes. The tuberculin skin test result was 12 mm in 24 hours. The patient was transferred to the University of Missouri Health Sciences Center for further management.

On admission to the Health Sciences Center, the patient had a temperature of 37 C and blood pressure of 170/75. There was a 3 cm x 4 cm supraclavicular mass on the right that was soft, indurated and tender. Cardiac examination revealed II/VI systolic ejection murmur. There were no focal neurological signs.

Admission laboratory studies disclosed the following values: white blood cell count, 13,888/cu mm with 68% polys and 18% bands, 8% lymphocytes, 5% monocytes and 1% eosinophils; hemoglobin, 6.1/100 ml; blood glucose, 345 gm/100 ml with a blood urea nitrogen of 6 mg/100 ml.

Results of tests for initial blood, peritoneal fluid and sputum smears for acid-fast bacilli were all negative. Posteroanterior (PA) and lateral views of the chest on her admission showed a large, anterior mediastinal mass partly obscuring the upper aortic knob but not obliterating the right paratracheal stripe. It was associated with a partial consolidation of the right-middle lobe (Fig. 1).

The chest films showed negative six weeks earlier. A computed tomography (CT) of the thorax was done without contrast. In the right subclavicular region (Fig. 2), an irregularly marginated, nonhomogeneous mass obscured the fat planes outlining the normal cervical vessels. In the immediate supraaortic area (Fig. 3), the same nonhomogeneous mass density was widening the mediastinum and infiltrating the mediastinal fat, thereby obliterating the normal outlines of the great vessels. The posterior surface of the manubrium appeared eroded. On the CT section immediately below that shown in Fig. 3 (Fig. 4), the aortic arch could be faintly seen surrounded by the material in the mediastinum. Lower CT sections showed a dense consolidation in the right-middle lobe and a pleural effusion on the right. Because of the lack of homogeneity of the densities and the poor margination of the mass on the CT with obliteration of the fat planes (in an obese patient), a pyogenic infection in the mediastinum was suspected. The patient was started on a regimen of cleocin and tobramycin.

On the third day of hospitalization, a right supraclavicular node specimen biopsy was done. This showed necrotizing granuloma with negative stains for acid-fast bacilli and fungi. Four days later, the patient underwent mediastinoscopy, which showed an indurated mass in the right paratracheal area with a minimal amount of purulent material extruding from the mass. The biopsy specimen revealed poorly formed granulomas with necrosis. No organisms were seen on special stains for acid-fast bacilli or fungi.

Due to the presence of caseating granuloma and a positive tuberculin skin test, the patient was started on a regimen of isoniazid, ethambutol and rifampin pending culture results. The culture for acid-fast bacilli from the supraclavicular node and the mediastinal

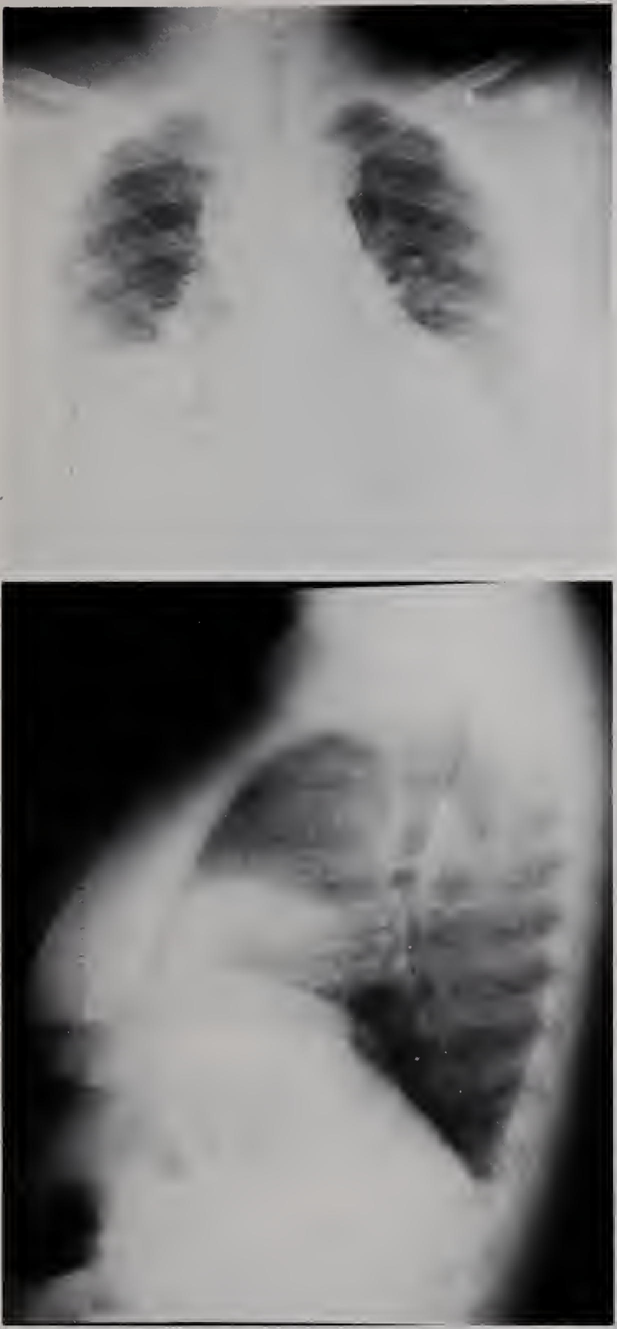

Fig. 1 PA and lateral chest views of bilateral upper mediastinal widening. Right middle lobe consolidation is present. Chest x-ray was clear six weeks earlier.

biopsy was positive in five weeks. The follow-up chest x-ray obtained after three and one-half weeks of therapy showed moderate diminution of both the right-middle lobe infiltrate and the anterior mediastinal mass.

Discussion

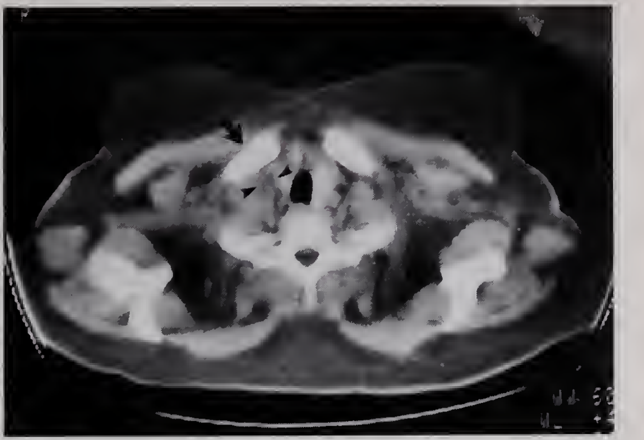

Fig. 2 CT scan at supraclavicular level shows that the normal region underneath right clavicle *(straight arrow)* shows an inhomogeneous density obliterating all normal vessel and muscle contours. Patchy collections of lower density (i.e., fluid or fat) are noted *(arrowheads)*.

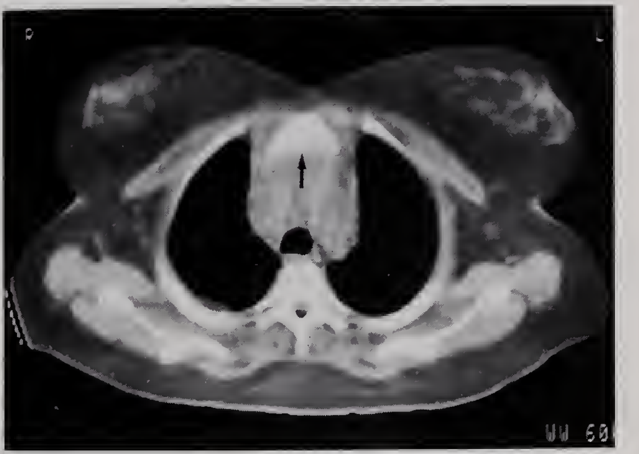

Fig. 3 CT scan in the upper thorax shows complete obliteration of normal fat planes and vessel shadows. The posterior manubrium appears eroded *(arrow)*.

The increased incidence of tuberculosis in patients with chronic renal failure on dialysis is well documented in the literature.[1, 2] In their review of 885 patients on long-term dialysis over 8½ years, Rutsky *et al* found the incidence to be 1% compared to the incidence in the general population of 0.038 per 100.[3] Andrew *et al* found the incidence to be 12.2 times greater in the population with renal failure than in the general population.[4]

Our patient had underlying diabetes with chronic renal failure. Although an association between diabetes mellitus and tuberculosis has been noted, there is no good documentation in the literature showing the relationship of diabetes mellitus to tuberculosis in patients with renal failure.[3] The high incidence of tuberculosis in patients with renal failure is thought to be due to impaired, cell-mediated immunity.[4]

The 40% occurrence of extrapulmonary tuber-

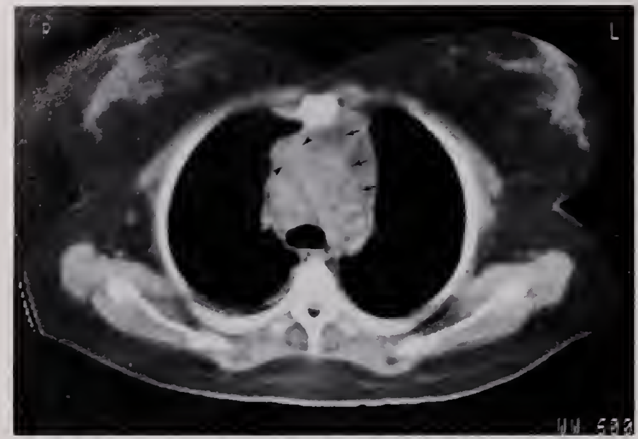

Fig. 4 CT scan at the aortic arch shows infiltration around the aorta *(straight arrows)* and vena cava *(arrowheads)*. The visualization of these structures (no contrast given) and the lack of normal fat planes suggest fluid.

culosis in patients with end-stage renal disease, as opposed to the average frequency of 14.8% in the San Francisco general population, was found to be a significant factor in leading to delays in the diagnosis, as noted by Andrew *et al.*[4] Sites of extrapulmonary involvement were mediastinal, meningeal, pleural and renal.[3] Our patient is an example of extrapulmonary mediastinal involvement, which was also noted by Andrew *et al*[4] in one of their ten patients. The diagnosis was obtained by mediastinal biopsy and culture.

The average interval between the initial presentation and a diagnosis of mycobacteriosis in this group of patients was eight weeks. This delay was due to the nonspecific nature of the presenting symptoms, negative sputum smears and absence of skin test reactivity.[3] In our patient, the results of the skin test was positive, but the sputum smears were negative, which was in agreement with the findings of Rutsky *et al.*[3] These authors also point out the need for obtaining tissue for the definitive diagnosis of mycobacterial disease in patients with chronic renal failure. In our patient, the diagnosis was established by supraclavicular and mediastinal mass biopsy.

The mortality due to tuberculosis in patients with chronic renal failure on dialysis was reported to be 47.6%. In the study by Andrew *et al*, however, eight of ten patients survived.[2] This was thought to be due to the high degree of indication followed by early diagnosis and treatment. Our patient responded well to treatment with good resolution of symptoms and radiographic findings. The drug combination of isoniazid and rifampin or ethambutol or both appear to be safe for these patients in the treatment of tuberculosis.[3, 4] We did not encounter drug toxicity in our patient during treatment.

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Reprints: *E. V. Sunderrajan, M.D.*
University of Missouri
Department of Medicine
Health Sciences Center
807 Stadium Rd.
Columbia, MO 65212

A program to help physicians adjust to competition has been established by the AMA. "Physicians who respond to market incentives to meet a variety of patient needs will be successful. Those failing to adjust, however, will suffer setbacks," the Board of Trustees said in a report on the program. The new activity will inform physicians on what kind of practice opportunities are available, how to organize practice resources and where to obtain medical practice finance. Data will consist of market area profiles, type of practice profiles, medical specialty profiles and reports on legal considerations in establishing a practice. Being developed are models of efficient practice techniques, model advertising samples, computer-based managerial information through the GTE Corp. program, articles on how to computerize an office, patient information booklets, and reports on office efficiency and negotiating compensation contracts. Financial institutions will be surveyed to discover funding and investment opportunities, and a directory on funding sources will be provided.

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ADDITIONAL INFORMATION: Monica A. Cauley, Bethesda Eye Institute, Ophthalmology Department, 3655 Vista Ave., St. Louis, MO 63110. Tel: (314) 772-9200, Ext. 395.

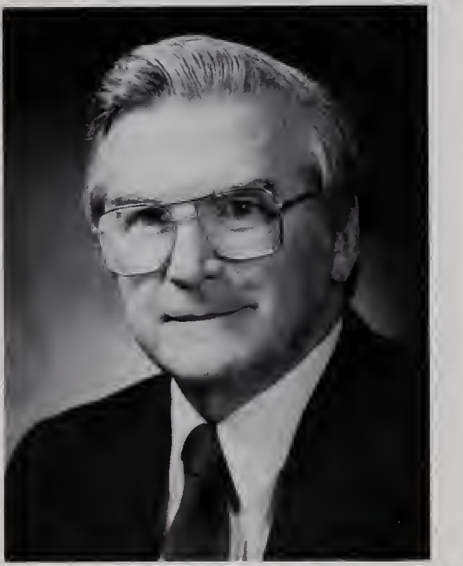
President's Message

MISSOURI MEDICAL POLITICAL ACTION COMMITTEE

Since its inception, the Missouri Medical Political Action Committee has had an outstanding record in supporting successful candidates for office. In the 1982 General Election, 87% of candidates assisted by the Committee were elected.

Currently, the Committee is ably chaired by Dr. John N. Martin of St. Joseph. Its members represent all areas of the state and both political parties. The decision to support or not to support a candidate rests primarily on the known track record the individual has established in voting on issues of importance to medicine or, if no track record is available, on the opinions expressed by the individual on the issues. MMPAC contributes to candidates for state offices while MMPAC and AMPAC contribute jointly to the campaigns of selected individuals running for Congress of the United States.

Politicians remember those who gave help to them in their campaigns. When elected, they are inclined to discuss legislation before them thoroughly with their grass roots supporters. As an example, in the first few weeks of the present Missouri General Assembly, several bills have been favorably modified by this process.



John I. Matthews, M.D.

In the view of this record of accomplishment, I urge each member of the Missouri State Medical Association to purchase and wear a MMPAC/AMPAC 99+ pin. It should be your minimum contribution to a maximum political effort.

MSMA Auxiliary

"To have striven, to have made an effort, to have tried to be true to certain ideals . . .
. . . the ideals of Medicine . . .
. . . this alone is worth the struggle."

—Sir William Osler

The philosophy of Dr. Osler — that each day, well lived, produces a life of fulfillment — has served as my inspiration and theme this year. Just one short year ago, I accepted the honor and responsibility of this office. Now it is "time" to extend grateful thanks to those who have made this year so rewarding: to the MSMA, its officers and professional staff, whose support has as always been unstinting; to the Auxiliary Board, county presidents and, especially, the members, without whom little would have been accomplished; and to Jean Duensing, MSMA/A Liaison, whose assistance and patience have been invaluable.

Mrs. Sam Gaston
President

While visiting with each county auxiliary, I have found the members involved in serving their communities' health needs, thereby extending the arms and image of the medical profession in a positive way. The year-end reports are impressive. Members are involved in many projects. They include child and drug abuse awareness and prevention; child auto safety seat projects; CPR training; health education and screening programs in the schools; hospice and donor programs; and fund raising for MSMF, AMA-ERF and other health-related scholarships. Some have found added opportunities through working in coalition with other community organizations. An added benefit of such volunteer effort is the AMA Auxiliary's program of "Professional Skills Development" that allows the participant to catalog the training so as to market those skills should it become necessary.

We believe we can and do make a difference, not only in the quality of health care in our communities but also in public relations. In February, members gathered in Jefferson City for "our" Day at the Legislature, an educational and rewarding experience for the members and, hopefully, for the lawmakers.

This year marked the first joint effort with the Illinois State Medical Society Auxiliary in presenting a workshop in St. Louis aimed at Resident Physician/Medical Student Spouses to develop rapport with future auxilians and provide support for young physicians and spouses in the transition into the medical community.

My final request, Doctor, is that you check to see that *your* spouse belongs to *your* Auxiliary. Truly, our strength and our future lie in our membership. That is where it happens — where the dreams and plans become blueprints for action, and the many skills and talents of our physicians' spouses are utilized in building bridges over which the next generation may safely cross.

. . . This alone is worth the struggle . . .

COMMENT

Our Readers Write

(EDITOR'S NOTE: The Editor would like to explain that the following letter from Dr. Ivy was received by MISSOURI MEDICINE before the special article that appears on page 127 of this issue and points out that other physicians are also aware of and interested in this problem.)

TO THE EDITOR:

There has been a terrible amount of erroneous information of every description parroted by the news media in the state regarding "Dioxin, the most toxic compound known to man," without there having been any attempt on the part of the media to do anything except sensationalize all their utterances. *One* article that appeared in one of the St. Louis newspapers evidenced that the reporter had read an article in the Oct. 15, 1982 *Journal of the AMA (JAMA)* that describes a study commissioned by the AMA and a *reputable* article resulted and was headlined "Dioxin-deadly — to guinea pigs."

At the request of the student delegates to the AMA in 1980, a study panel was appointed by the Council on Scientific Affairs Advisory Panel on Toxic Substances to evaluate the "Health Effects of 'Agent Orange' and Polychlorinated Dioxin Contaminants." This panel reported in a brochure (printed by the AMA in October, 1981) entitled "Dioxin — Agent Orange." It contained nearly 50 pages of evaluation of the literature and critical appraisal of reported exposures and studies from the discovery that chlorinated hydrocarbons caused acne due to contaminants produced in the manufacture, to the time of the study. This exhaustive appraisal was abstracted and published as a three-page article in the October 15, 1982 issue of *JAMA*. This was very well done and is almost as good as reading the original, which takes much more time.

Judging from the information of this study and a fairly high interest in truthful information reaching the public, I hope all of us in the MSMA will read this article and help to urge the AMA to also join with us in this very necessary educational project. A resolution regarding "Dioxin" will be presented to the MSMA House of Delegates.

Sincerely,
H. B. Ivy, M.D.
Springfield
Delegate, Green County
Medical Society

TO THE EDITOR:

My name is Fran Richter. I am a Certified Medical Assistant and Public Relations Chairman for the Missouri Society of The American Association of Medical Assistants and would like to inform your readers about our organization and invite their medical assistants to join our organization.

The American Association of Medical Assistants was founded in 1956 and has dedicated itself to the continuing education and professional advancement of medical assistants. Yesterday's "office girl" has evolved into a skilled professional. No matter what the specific job title — receptionist, bookkeeper, billing clerk, clinical assistant, technician, office manager — we believe medical assistant's expertise complements and extends your own. And, just as your education and professional growth never stops, neither should your medical assistant's. That's why the American Association of Medical Assistants (AAMA) exists.

We are a national, nonprofit organization dedicated to the professional advancement of medical assistants. Our educational services enable members to increase their effectiveness for the physicians and patients they serve and to advance professionally.

AAMA offers your assistant(s) the opportunity to challenge an examination and become a Certified Medical Assistant (CMA). She also has a choice of hundreds of educational programs sponsored by local, state and national AAMA groups throughout the year. AAMA offers educational advancement. Plus this, there is the fellowship of other medical assistants in the same field who have a common bond.

The Missouri Society of AAMA will meet in St. Louis for the annual meeting April 15-17 at the Bel Air Hilton in Downtown St. Louis. Topics of our educational program are as follows: Surgical Treatment of Inflammatory Bowel Disease; Peptic Ulcer Disease; Cytogenetics and Hospice. There will also be a film and presentation regarding the new kidney stone-crushing machine for removal of kidney stones without surgery. Continuing education credits will be issued for the program.

The National Convention this year will be held in New York City. At that time, there will be educational seminars, scheduled for an entire week.

For information regarding the American Association of Medical Assistants, please contact President Lani Dukat, CMA-C, CST; 8909 Woodland, Kansas City, MO. Phone 64131 (1-816-444-2505 or 444-2562 (home)).

Sincerely
Fran Richter, CMA
St. Louis

NEWS About CME Events

Mercy-Baptist Eye Foundation
615 S. New Ballas Rd., St. Louis 63141
(314) 432-5478
Contact: Mrs. Judi Kramer, Coordinator

May 15	16th Eye Seminar — Laser Surgery for Cataract, Glaucoma and Retina

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Cardinal Glennon Memorial Hospital for Children
1465 S. Grand Blvd., St. Louis 63104
(314) 577-5000

June 15-17	Updating Skills and Knowledge in Neonatology Combined With A Fun Family Vacation in the Ozarks (For Pediatricians and Family Practice Physicians) (Tan-Tar-A, Osage Beach)

St John's Mercy Medical Center
615 S. New Ballas Rd., St. Louis 63141
(314) 569-6000
Contact: Felix E. F. Larocca, M.D.

April 16	"The First BASH Annual Conference on Eating Disorders"

University of Missouri-Columbia School of Medicine
Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
Contact: William D. Bradshaw, M.D., Director

Apr. 8	Preceptor's Day (Columbia)
Apr. 8-10	Group Relations Conference (Columbia)
Apr. 9-10	Sixth Annual Family Practice Update Session (Columbia)
Apr. 20, 21	Sixth Annual Primary Pediatrics for the Primary Physician (Columbia)
Apr. 29, 30	Second Annual Missouri Clinical Conference on Arthritis (Columbia)
May 6-8	Sixth Annual Missouri Cardiovascular Conference (Tan-Tar-A, Osage Beach)
May 18-20	Inflammatory Bowel Disease (Columbia)
Aug. 6, 7	Sixth Annual Soft Tissue Surgery Workshop (St. Louis)
Oct. 20-22	Fifth Annual Advances in Rheumatology Symposium (Columbia)
Nov. 4, 5	26th Annual Physicians Weekend (Columbia)

The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

Mid-American Heart Institute of St. Luke's Hospital
Center for Continuing Education
44th and Wornall, Kansas City 64111
(816) 932-2111
Contact: Pat Prochaska or Jane Popp

Apr. 28-30	Third Annual Symposium on Advances in Heart Disease

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Bethesda Eye Institute
Ophthalmology Department
St. Louis University School of Medicine
3655 Vista Lane, St. Louis 63110
Contact: Monica A. Cauley, (314) 772-9200, Ext. 395

May 19-20	Oculoplastics Workshop

The Jewish Hospital of St. Louis
216 S. Kingshighway, P.O. Box 1419, St. Louis 63178
Contact: Alan P. Lyss, M.D., (314) 454-7463

The Maryilyn Fixman Clinical Cancer Conference

Mar. 16	Renal Cell Carcinoma
Apr. 20	Malignant Melanoma
May. 18	Interpreting Cancer Literature
June 15	Testicular Carcinoma

Buchanan County Medical Society
Methodist Medical Center, St. Joseph 64501
Contact: Sherry Rakes (816) 271-6020

Apr. 14-15	First Annual St. Joseph Cardiology Conference Advances in Management of M.I.s and Arrythmias Current Approach to the Use of Pacemakers Advances in Mangement of M.I.s and Arrythmias Noninvasive Approach to the Cardiac Patient Advances in the Approach to Cardiogenic Shock

Menorah Medical Center
4949 Rockhill Rd., Kansas City 64110
(816) 276-8000
Contact: Erich W. Pollak, M.D., Director of Surgical Education, for the following:

4:00 PM — Basic Sciences to Surgery Seminar
(Monday through Friday)
3:00 PM — Surgical Rounds
(Every Wednesday and Friday)
4:00 PM — Surgical Techniques Seminar
(Every second and fourth Wednesday)
4:45 PM — Morbidity and Mortality Conference
(Every fourth Wednesday)
8:00 AM — Morbidity and Mortality Conference
(Every second Saturday)
7:00 AM — Surgical Grand Rounds
(First and third Thursdays)

Contact: David S. Sneid, M.D., Director of Medical Education, for the following:

9:00 AM — Medicine Staff Conference
(First, third and fourth Tuesdays)

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
Contact: Alta Bingham

March 19-26	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Snowmass, Colo.)
April 21-23	Update in Obstetrics and Gynecology (Hyatt Regency Hotel)
May 12-13	Surgical Problems — The Old and the New (Alameda Plaza Hotel)
May 20-21	The Long Weekend (Alameda Plaza Hotel)
June 4	Physical Fitness (Crown Center Hotel)

St. Louis University Medical Center
Dept. of Orthopedic Surgery
1325 S. Grand Blvd.

Oct. 29-30	Spinal Disorders in Children

The Edward Mallinckrodt Institute of Radiology — Washington University School of Medicine
510 S. Kingshighway, St. Louis 63110
(314) 367-2131
Contact: Ronald G. Evens, M.D., Director

Apr. 11	Leroy Sante Lecture (St. Louis University)
May 9	City-Wide Radiology Conference — Pediatric Radiology
May 6-14	Fifth Annual Current Concepts in Musculoskeletal Radiology and Orthopedics (With Inter-American Congress of Radiology) (Acapulco)

The Ed Bixby Institute Research Medical Center
2316 E. Meyer Blvd., Kansas City 64132
(816) 276-4306
Contact: Jane L. Jackson, Director of Seminars

Apr. 6	Acute and Chronic Pain Management
June 1	Pulmonary Disease: Critical Care
Aug. 3	New Radiology Techniques

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3873
Contact: Loretta Giacoletto, Office of CME

Mar. 19	Clinical Applications of Advanced CT Technology for Management of Craniofacial Disorders
Mar. 24-25	Practical Management of Common Rheumatologic Disorders
Apr. 7-8	Ninth Annual Symposium on Obstetrics and Gynecology
Nov. 11-13	Tenth Annual Symposium: Anesthesia and The Geriatric Patient (Contact: Dept. of Anesthesiology — 314-454-2858)

Missouri Chapter, American College of Surgeons, Inc.
P.O. Box 4562, Springfield 65808
Contact: Linda Whelan, Executive Secretary
(417) 887-1970

June 17-18	1983 Annual Professional Meeting Lodge of the Four Seasons, Lake of the Ozarks

MISSOURI STATE MEDICAL FOUNDATION

Give now to your student loan fund!

Send A Generous Contribution To

MISSOURI STATE MEDICAL FOUNDATION

P.O. Box 1028, Jefferson City, Missouri 65102

The Missouri State Medical Foundation is classified by the Internal Revenue Service under 509(a)(3). Individuals may deduct up to 50% of their adjusted gross income for contributions made to the MSMF.

MSMA Members Receive Physician's Recognition Award

Thirty-two MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the period of January, 1983.

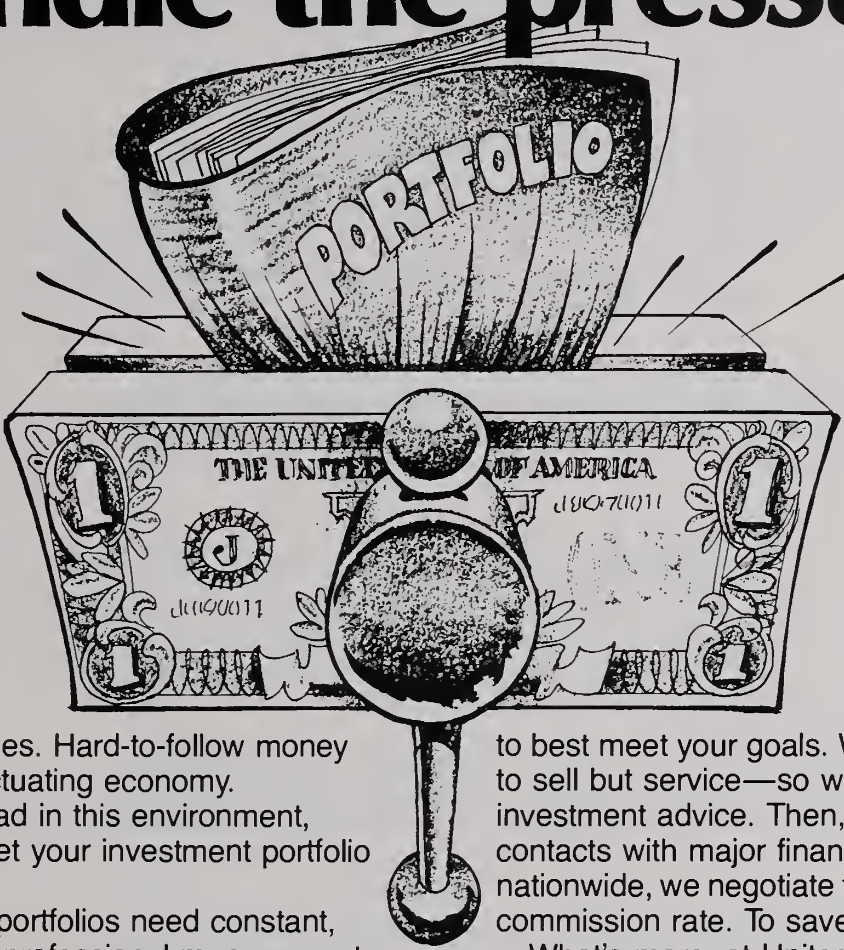
The award is a voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in Missouri Medicine as they are received from the AMA.

Frank J. Albani, Liberty
William D. Bradshaw, Columbia
Harry D. Burack, St. Louis
Nathan D. Burroughs, Kansas City
Donald E. DeWitt, Kansas City
Oman E. Dement, Joplin
Harry C. Eggleston, St. Louis
James A. Felts, St. Louis
Thomas F. Frawley, St. Louis
Ernesto M. Gapasin, Lebanon
Vincent P. Gurucharri, Columbia
Donald B. Holley, Camdenton
Robert W. Hyatt, Columbia
Yasuo Ishida, St. Louis
Harry L. S. Knopf, Clayton
Vincente W. Kwan, Potosi
Levy M. Maravilla, St. Louis
Benjamin E. Medley, Kansas City
Armando H. Moreano, Kansas City
Arthur L. Prensky, St. Louis
John J. Purcell, Richmond Heights
Seoung E. Rhee, St. Louis
Bernardo R. Rodrigo, Creve Coeur
Edwin H. Schmidt, St. Louis
Naheed F. Shah, Chesterfield
Kenneth K. C. Siu, Jefferson City
Michael R. Soper, Kansas City
Thomas C. Sparkman, Cape Girardeau
Gregory E. Steiner, Kansas City
Kailash C. Tarneja, Crestwood
Daniel B. Toubes, Kansas City
Corrinne Anne F. Walentik, University City

Can your portfolio handle the pressure?



Market extremes. Hard-to-follow money policies. A fluctuating economy.

To stay ahead in this environment, you need to get your investment portfolio in top shape.

Substantial portfolios need constant, individualized, professional management. By experts concerned with both quality and growth.

That's United Missouri Bank.

We're here with the best investment services you can find. We'll work with you in setting specific financial objectives. To make your portfolio work harder.

United Missouri will give you straightforward recommendations on how to best meet your goals. We have nothing to sell but service—so we offer impartial investment advice. Then, through our contacts with major financial institutions nationwide, we negotiate the best possible commission rate. To save you money.

What's more, at United Missouri, your participation is welcome. Get as involved as you like in your portfolio management. Or let us handle everything.

For a portfolio that can handle the pressure of today's financial climate, trust us. Even when the squeeze is on, we'll relieve the pressure.

For more information, call the United Missouri Investment Counsel Service. (816) 556-7349.

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of Kansas City, n.a.
Member FDIC

United we grow. Together.
10th and Grand, P.O. Box 226, Kansas City, MO 64141

NEWS About Our Members

Dr. William Bradshaw, former Clinton physician and now teaching at the University of Missouri-Columbia School of Medicine, has been nominated for the prestigious Thomas Jefferson Award made annually by the university system. Dr. Bradshaw's nomination by other faculty members was based on his accomplishments in society and beliefs along those espoused by Thomas Jefferson. He has served as mayor of Clinton.

Dr. William J. Medlicott, Kansas City, orthopedic surgeon, is the new president-elect of Jackson County Medical Society. A graduate of Washington University School of Medicine, Dr. Medlicott has been in private practice since 1965. He will assume the presidency of the County Medical Society in 1984.

Dr. James F. Conant, DeSoto, has been reelected to the post of chief of staff at Jefferson Memorial Hospital. He also has served as vice-president/president-elect and chairman of the Family Practice Department at the hospital. Also elected were **Drs. Benjamin Albano**, vice-president/president-elect, and **E. Verzola**, secretary-treasurer.

Dr. George L. Tucker will become chief of surgery at St. Luke's Hospital in St. Louis in mid-April, 1983. He is currently a practicing general surgeon at the hospital and associate professor of clinical surgery at Washington University School of Medicine. He was selected by a search committee established at Barnes Hospital to find a successor to **Dr. C. Alan McAfee**, who is retiring from the post he has held since Jan. 1, 1969. Dr. Tucker also serves as president of the Barnes Staff and Allied Society, composed of the medical staff. He was chief of the Washington University Surgery Service at City Hospital for three years. Dr. Tucker is president-elect of the Missouri Surgical Society.

Dr. Michael Moore, West Plains, has been elected medical chief of staff of West Plains Memorial Hospital. Also elected were **Dr. Y. M. Kang**, West Plains, vice-chief of surgery, and **Dr. R. D.** Shaw, Willow Springs, staff secretary.

Dr. Donald K. Back, Springfield, will serve as Potentate of the Abou Ben Adhem Shrine Temple for 1983. Dr. Back was appointed to the governing body of the Shrine in 1975. In his new post, he will serve more than 6,400 Shrine Masons in southwest Missouri. A graduate of the St. Louis University School of Medicine, Dr. Back has served as president of the Greene County Heart Association and MMPAC.

Dr. N. K. Datta, Festus has been elected president of Jefferson County Medical Society. Dr. Datta is a Fellow of the American College of Obstetrics and Gynecology and is a member of the American Fertility Society, the American Association of Gynecologic Laparoscopists and a Diplomate of the American Board of Obstetrics and Gynecology. His offices are in Bonne Terre and Crystal City.

Dr. Albert L. Folkner, Warrensburg, has been named by Gov. Christopher S. Bond to serve on the Central Missouri State University Board of Regents. A graduate of CMSU, Dr. Folkner earned his medical degree at Kansas University School of Medicine. Serving in numerous capacities in his community, he has been a member of the Warrensburg R-VI Board of Education and was its president from 1979 to 1980. He was a member of the Warrensburg City Council and served as mayor pro tem and on the Planning and Zoning Commission. He also served as chief of staff of Johnson County Memorial Hospital for two terms. He is a diplomate with the American Board of Family Practice and a charter fellow of the American Academy of Family Practice. He also is a preceptor for the University of Missouri-Kansas City School of Medicine.

Dr. Larry K. Stauffer has been named president of the medical staff for 1983-1984 at St. Mary's Health Center in Jefferson City. Other officers include **Drs. Charles J. Landsbaum,** vice-president; **John J. Krautmann,** secretary-treasurer; **Alan L. Braun,** chairman, Department of Medicine; **Robert J. Hauser,** chairman, Department of Surgery; **Philo Su,** chairman, Maternal Child Health Department; and **James E. Allan,** member-at-large of the Executive Committee.

Dr. Lawrence S. Cohen, Kansas City cardiologist, presented the annual "heart" program of the Buchanan County Medical Society on February 2. His subject was "Advances in Permanent Pacemakers." Dr. Cohen is director of cardiovascular services at Menorah Medical Center in Kansas City. The annual program is held in St. Joseph in cooperation with the Northwest Region of the Missouri Heart Association as part of the group's professional education program. Arrangements for the meeting were made by **Dr. Steven K. Krueger,** chairman and **Dr. Prakesh B. Patel** and **Dr. John N. Martin,** members of the Society's program committee.

St. Francis Hospital sponsored an open house in January to honor **Dr. Benjamin F. Byland** and **Dr. George R. Wempe** upon their retirement as area physicians.

Dr. Robert Dettmer, Ironton, has been elected president of the medical staff at Arcadia Valley Hospital. Dr. Dettmer, who has served as president of the staff in the past, is a member of Mineral Area Medical Society.

Dr. Wilfred Leach, Clayton, has been reelected president of the medical staff of Bethesda General Hospital in St. Louis for 1983. Also reelected were **Drs. Subodh K. Mehra,** vice-president, and **Dr. Edward S. Nemec,** secretary.

Dr. Lasley E. Huber, Moberly, has been awarded a plaque for his many years of service to his community. Mr. Jim Culpepper, administrator for the Moberly Regional Medical Center, made the presentation recently.

Dr. Jim D. Frogge, Joplin, is the new president of the medical staff at St. John's Regional Medical Center. Also elected were **Dr. Dennis W. Smith,** president-elect, and **Dr. James Habermann,** secretary-treasurer. **Dr. Clarence A. Martin,** retiring president, received a plaque in appreciation of his service.

MAKE GOOD HEALTH A HABIT
SHAPE UP FOR LIFE

The early years...
the middle years...
the later years...

it's never too soon or too late
to practice good health habits.
Exercise regularly, eat right,
manage stress, don't smoke,
use alcohol only in moderation,
get adequate sleep.

You can bet your life that total fitness
— physical and mental —
pays off.
To find out how you can
make good health a habit
and Shape Up for Life,
write for free pamphlets from
the AMA Auxiliary,
535 N. Dearborn St.,
Chicago, IL 60610.

BRIEF SUMMARY
PRDCARDIA® CAPSULES For Oral Use
(nifedipine)

INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is retractory to nitrates and/or adequate doses of beta blockers

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PRDCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCAROIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA.

WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PRDCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PRDCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: Hypotension: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PRDCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug Interactions: Beta-adrenergic blocking agents: (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PRDCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates: PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis: Administration of PROCAROIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LOH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PRDCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PRDCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PRDCARDIA CAPSULE contains 10 mg of nifedipine. PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NOC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container.

More detailed professional information available on request.

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PFIZER INC

"I can do things that I couldn't do for 3 yrs. including joining the human race again."

Quotes from an unsolicited letter received by Pfizer from an angina patient.
While this patient's experience is representative of many unsolicited comments received, not all patients will respond to Procardia nor will they all respond to the same degree.

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"My daily routine consisted of sitting in my chair trying to stay alive."

"My doctor switched me to PROCARDIA[*] *as soon as it became available. The change in my condition is remarkable."*

"I shop, cook and can plant flowers again."

"I have been able to do volunteer work...and feel needed and useful once again."

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks, taking fewer nitroglycerin tablets, doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).

for the varied faces of angina

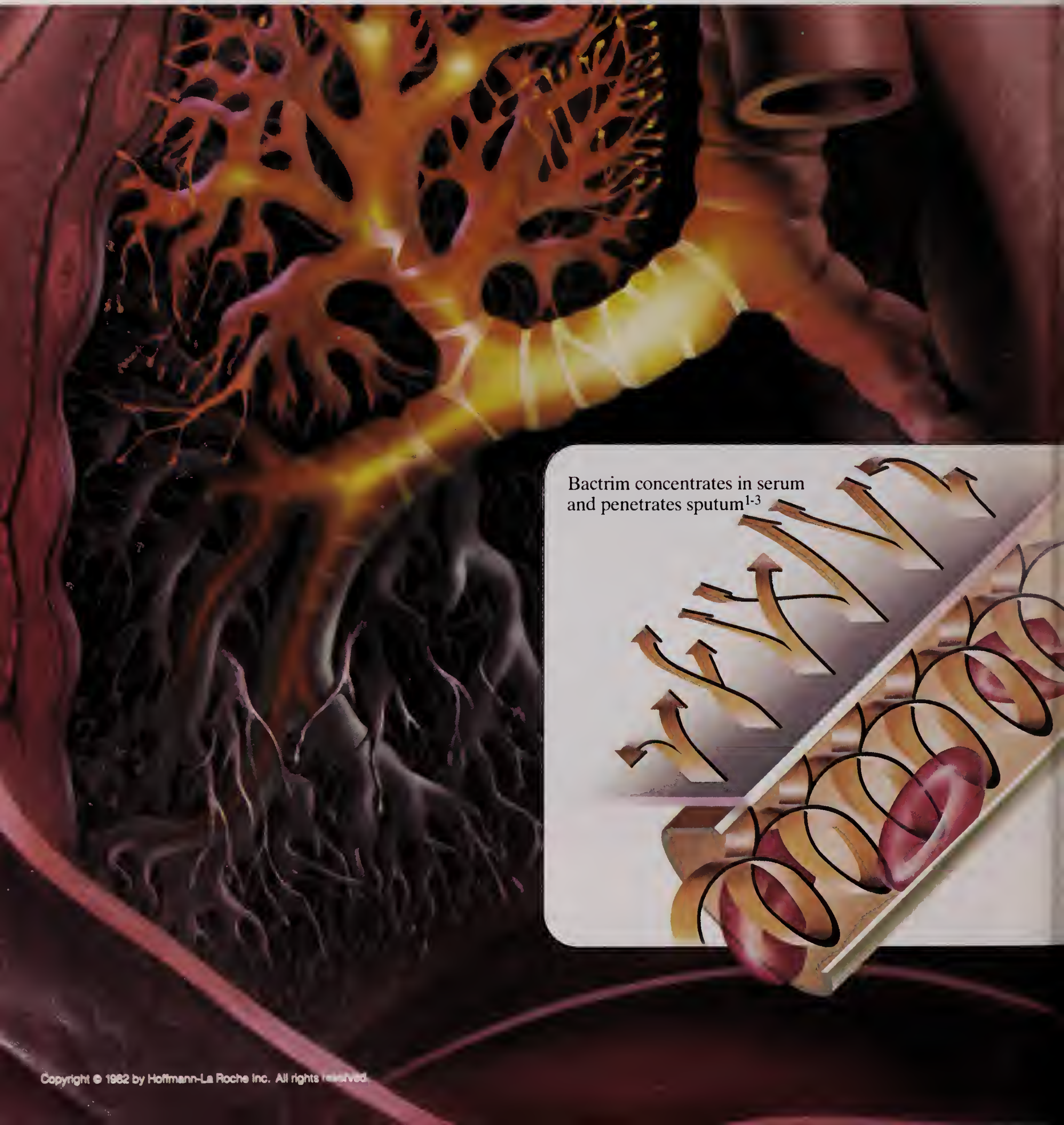
PROCARDIA®
(NIFEDIPINE) *Capsules 10 mg*

Please see PROCARDIA *brief summary on adjoining page*

---

[*] Procardia is indicated for the management of:
1) Confirmed vasospastic angina.
2) Angina where the clinical presentation suggests a possible vasospastic component.
3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Bactrim™ attacks the
(trimethoprim and sulfamethoxazole/Roche)
in acute exacerbations


Bactrim concentrates in serum and penetrates sputum[1-3]

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major pathogens of chronic bronchitis*

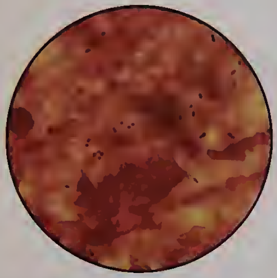
Bactrim clears sputum of susceptible bacteria

In sputum cultures from patients with acute exacerbations of chronic bronchitis, *H. influenzae* and *S. pneumoniae* are isolated more often than any other pathogens.[4,5] One study of transtracheal aspirates from 76 patients with acute exacerbations found that 80% of the isolates were of these two pathogens.[5]

Bactrim is effective *in vitro* against most strains of both *S. pneumoniae* and *H. influenzae*—even ampicillin-resistant strains. And in acute exacerbations of chronic bronchitis involving these two pathogens, sputum cultures taken seven days after a two-week course of therapy showed that Bactrim eradicated these bacteria in 91% (50 of 55) of the patients treated.[6]

attacks *H. influenzae*—even ampicillin-resistant strains

attacks *S. pneumoniae*



Bactrim reduces coughing and sputum production

In three double-blind comparisons with ampicillin *q.i.d.*, Bactrim DS proved equally effective on all clinical parameters.[7-9] Bactrim reduced the frequency and severity of coughing, reduced the amount of sputum produced and cleared the sputum of purulence.

Bactrim has the added advantages of *b.i.d.* dosage convenience and a lower incidence of diarrhea than with ampicillin, and it is useful in patients allergic to penicillins.

Bactrim also proved more effective than tetracyclines in 10 clinical trials involving nearly 700 patients.[10] Overall clinical condition of the patients, changes in sputum purulence, reduction in sputum volume and microbiological clearance of pathogens—all improved more with Bactrim therapy than with tetracyclines. G.I. side effects occurred in only 7% of patients treated with Bactrim compared with 12% of tetracycline-treated patients. (See Adverse Reactions in summary of product information on next page.)

Bactrim is contraindicated in pregnancy at term and nursing mothers, infants under two months of age, documented megaloblastic anemia due to folate deficiency and hypersensitivity.

Bactrim DS. For acute exacerbations of chronic bronchitis in adults* when it offers an advantage over single-agent antibacterials.

References: 1. Hughes DTD, Bye A, Hodder P: *Adv Antimicrob Antineoplastic Chemother 1/2*:1105-1106, 1971. **2.** Jordan GW *et al: Can Med Assoc J 112*:91S-95S, Jun 14, 1975. **3.** Beck H, Pechere JC: *Prog Antimicrob Anticancer Chemother 1*:663-667, 1969. **4.** Quintiliani R: Microbiological and therapeutic considerations in exacerbations of chronic bronchitis, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts;* Princeton Junction, NJ, Communications Media for Education, Inc., 1980, pp. 9-12. **5.** Schreiner A *et al: Infection* 6(2):54-56, 1978. **6.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **7.** Chodosh S: Treatment of acute exacerbations of chronic bronchitis: results of a double-blind crossover clinical trial, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts. Op. cit.*, pp. 15-16. **8.** Chervinsky P: Double-blind clinical comparisons between trimethoprim-sulfamethoxazole (Bactrim™) and ampicillin in the treatment of bronchitic exacerbations. *Ibid.*, pp. 17-18. **9.** Dulfano MJ: Trimethoprim-sulfamethoxazole vs. ampicillin in the treatment of exacerbations of chronic bronchitis. *Ibid.*, pp. 19-20. **10.** Medici TC: Trimethoprim-sulfamethoxazole (Bactrim™) in treating acute exacerbations of chronic bronchitis: summary of European clinical experience. *Ibid.*, pp. 13-14.

Economical b.i.d.

Bactrim™ DS

(160 mg trimethoprim and 800 mg sulfamethoxazole/Roche)

*Due to susceptible organisms. **Please see next page for summary of product information.**

Bactrim™

(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note.* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders Frequent CBC's are recommended, therapy should be discontinued if a significantly reduced count of any formed blood element is noted

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients

Pregnancy Teratogenic Effects Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias.* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia *Allergic reactions.* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness *Miscellaneous reactions* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E phenomenon Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients, cross-sensitivity with these agents may exist In rats, long-term therapy with sulfonamides has produced thyroid malignancies

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN

Adults Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d for 10-14 days. Use identical daily dosage for 5 days for shigellosis

Children Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days Use identical daily dosage for 5 days for shigellosis

For patients with renal impairment. Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp (20 ml) b i d for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS

Recommended dosage 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets*, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100, Tel-E-Dose® packages of 100, Prescription Paks of 20 and 28 *Tablets*, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500, Tel-E-Dose® packages of 100, Prescription Paks of 40 *Pediatric Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint) *Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint)

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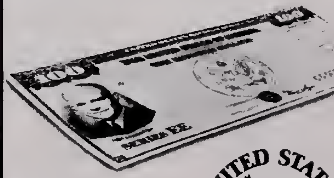

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NEWS From the Medical Schools

WASHINGTON UNIVERSITY

Virginia V. Weldon, M.D., has been named deputy vice-chancellor for medical affairs at the School of Medicine.

Dr. Weldon

Dr. Weldon's appointment was announced by *Samuel B. Guze*, M.D., vice-chancellor for medical affairs at the medical school and president of the Washington University Medical Center.

Dr. Weldon has been associate vice-chancellor for medical affairs at the School of Medicine since 1981. She will continue to serve as vice-president of the Washington University Medical Center, a position she has held since 1980, and as professor of pediatrics at the medical school. She is also in the staffs of Barnes and St. Louis Children's hospitals. A specialist in pediatric endocrinology, her research on mechanisms of abnormal growth in children has received national recognition.

Dr. Weldon began her career at the medical school in 1968 as an instructor and was named professor of pediatrics in 1979. She has held a number of administrative positions, including assistant to the vice-chancellor for medical affairs, assistant director of the Clinical Research Center and co-director of the Division of Pediatric Endocrinology and Metabolism.

She received her M.D. degree at the University of Buffalo School of Medicine, served an internship and assistant residency in pediatrics at The Johns Hopkins Hospital in Baltimore and a fellowship and instructorship at Johns Hopkins Medical School.

Henry G. Schwartz, M.D., August A. Busch Jr., Professor of Neurological Surgery, has received the Award of Merit from the St. Louis Metropolitan Medical Society.

The award is the society's highest honor and is presented only when the awards and honors committee knows of a deserving recipient. The society recognized Dr. Schwartz for "outstanding contributions to medicine."

Dr. Schwartz has been a faculty member at the School of Medicine since 1936 when he was appointed a fellow in neurological surgery. He was named professor of neurological surgery in 1946 and served as acting head of the Department of Surgery from 1965-67. He has held his position as the Busch Professor of Neurological Surgery since 1970. He began his academic career in 1935 as instructor in anatomy at Harvard University Medical School.

A neurosurgeon at Barnes, Jewish and St. Louis Children's hospitals, he was chief of the neurosurgery section of Barnes and Allied hospitals from 1946-1974, and acting surgeon-in-chief at Barnes Hospital from 1965-1967. He is a consultant in neurosurgery to St. Louis City Hospitals 1 and 2, St. Louis County Hospital and the Veterans Administration for the St. Louis area.

Dr. Schwartz received his M.D. degree at Johns Hopkins School of Medicine in 1932.

Gustav Schonfeld, M.D., professor of preventive medicine and medicine, recently addressed some 150 researchers from throughout the world who attended a symposium on animal diabetes in Israel that was sponsored by the International Diabetes Foundation. His subject was "Metabolic and Hormonal Control of Lipoprotein Production."

Dr. Schonfeld is director of the medical school's Lipid Research Center, one of 12 center in the United States and Canada participating in a ten-year double-blind study of the link between cholesterol and heart attack.

Mary Ann Boyle, Ph.D., has been named Elias Michael Director of the occupational therapy program at the School of Medicine. As director, Dr. Boyle is responsible for planning and directing undergraduate and graduate programs in occupational therapy. She also serves as an assistant professor of occupational therapy. Her seven years' experience as an occupational therapist includes three years as a chief occupational therapist at hospitals in Kansas and Florida.

Dr. Boyle attended the University of Kansas at Lawrence, where she received the doctorate in neurosciences in 1982, the master of science degree in education in 1980, the bachelor of science degree in human biology in 1979 and the bachelor of science degree in occupational therapy in 1970.

UNIVERSITY OF MISSOURI-KANSAS CITY

U.S. Senator John Danforth met with *Dean Harry S. Jonas; Dr. E. Grey Dimond,* special consultant to the chancellor; and *Eugene P. Trani,* vice-chancellor for academic affairs during his recent visit to the School of Medicine. Senator Danforth also spoke with *Dr. James Hamilton,* chairman of the Department of Orthopedic Surgery, and *Dr. Felix Sabates,* chairman of the Department of Ophthalmology at Truman Medical Center and met with four medical students.

Charles B. Wilkinson, M.D., professor of medicine and associate dean for development, served as an acting director for the American Board of Psychiatry and Neurology, Inc. Other faculty members from the Department of Psychiatry who served as examiners on Dr. Wilkinson's team were *Drs. Robihn Hornstra, Enrique Vera, Walter Ricci, James Carter* and *Samuel Ericsson.*

Bob In-Yu Yang, Ph.D., associate professor of medicine and chemistry, has been named chairman-elect of the American Chemical Society-Kansas City Section for 1983.

Tawfik M.A. ElAttar, Ph.D., professor of medicine and dentistry, spoke on "Clinical Implications of Prostaglandins" at the Institute of Postgraduate Dental Education in Jonkoping, Sweden and on "Biosynthesis and Inhibition of Prostaglandin Synthesis in Human Connective Tissue" at the University of Bonn Physiological Chemistry Institute in Bonn, Germany.

Dr. Daniel C. Tosteson, M.D., dean of Harvard Medical School, will deliver the annual Carl Migliazzo Memorial Lecture in conjunction with commencement activities on June 3 at the School of Medicine.

For the first time in its history, the Medical School will hold its own separate commencement ceremony later that day. Since 1983 marks the tenth anniversary of the graduation of the first doctors from the School, alumni from the Class of 1973 with their ten-year reunion and the Class of 1978 with their five-year reunion will be especially honored.

UNIVERSITY OF MISSOURI-COLUMBIA

Aimee Moore, Ph.D., director of dietetic education in the School of Health Related Professions, has been selected Missouri's Outstanding Dietitian for 1983. Dr. Moore will be honored at the annual meeting of the Missouri Dietetic Association (MDA) on April 21, 1983.

The MDA cited Dr. Moore's "tireless dedication to the dietetic profession as well as to state and district association" in announcing the honor. Dr. Moore joined the Medical School in 1961. Under her direction, a computerized food management system, the first of its kind to be used by a large number of hospital food services, was developed here.

Frank B. Engley, Jr., Ph.D., professor of microbiology in the School of Medicine, has been invited to serve on the National Advisory Allergy and Infectious Diseases Council of the National Institutes of Health.

The appointment, which began in January, 1983, will continue through October, 1984. Dr. Engley joined the faculty in 1955.

Kristi S. Roberts, Ph.D., assistant professor of psychiatry (medical psychology), Department of Psychiatry, was recently selected an Outstanding Young Woman for 1982 in recognition of her professional and personal accomplishments.

Dr. Roberts also holds an appointment in the UMC School of Medicine's Family and Community Medicine Department, as well as with UMC's counseling and personnel services.

Since 1979, Dr. Roberts has served as coordinator of the alcoholism treatment unit at the Harry S. Truman Memorial Veterans Medical Center as well as a staff psychologist there.

Andrew A. Lasser, Dr. P.H., assistant professor in the University of Missouri-Columbia School of Health Related Professions' health services management program, has been appointed Fellow of the Accrediting Commission on Education for Health Services Administration, Washington, D.C.

During his term through December, 1983, Dr. Lasser will participate in commission activities including accreditation site visits.

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Introducing Our New MSMA Members

James Jeffrey Bass, M.D., 4th & Main, Salem 65560, has become a member of Mid-Missouri Medical Society. Dr. Bass is a native of Indianapolis, Ind., received his baccalaureate and M.D. degree at the University of Missouri-Kansas City in 1979. He specializes in emergency medicine.

Jimmy L. Costin, M.D., 1980 N. Westwood, Poplar Bluff 63901, has become a member of Butler-Wayne-Ripley-Carter County Medical Society. Dr. Costin is a native of Poplar Bluff, received his preliminary education at Oklahoma State University and his M.D. degree at Oklahoma University in 1978. He specializes in pathology.

Mark A. Ediger, M.D., P.O. Box F, Harrisonville 64701, has become a member of West Central Missouri Medical Society. Dr. Ediger is a native of Hays, Kan., received his baccalaureate and M.D. degree at the University of Missouri-Kansas City in 1978. He specializes in family practice.

Richard C. Price, M.D., Harrisonville Medical Center, Southside Shopping Center, Harrisonville 64701, has become a member of West Central Missouri Medical Society. Dr. Price is a native of Brush, Colo., received his preliminary education at Colorado University and his M.D. degree at Colorado University in 1978. He specializes in family practice.

Oran J. Ringen, Jr., M.D., 3302 McIntosh Circle Dr., Joplin 64801, has become a member of Jasper County Medical Society. Dr. Ringen is a native of Kansas City, received his preliminary education at Missouri Southern State College and his M.D. degree at the University of Missouri-Columbia in 1976. He specializes in family practice.

Ramasamy Seralathan, M.D., VA Hospital, Poplar Bluff 63901, has become a member of Butler-Wayne-Ripley-Carter County Medical Society. Dr. Seralathan is a native of Madras, India, received his preliminary education at Sir Theagarays College and his M.D. degree at Stanley Medical College in 1972. He specializes in general surgery.

New Student Members

St. Louis University

Mark W. Bonneville
Larry P. Davis
Francis Delvecchio
Stephen P. Kapaon
Priscilla E. Long
Mark R. Nyreen

University of Missouri-Columbia

Mary Beth Benton
Michael L. Copeland
Michael A. Greene
Jim D. McCauley
Tim A. O'Connor
Mary Kathleen Otradovec
Mark A. Stacy

University of Missouri-Kansas City

Julie D. Goldstein
Helen C. Lee
Jeffrey S. Steele

In Memoriam

Charles E. Eimer, M.D., 6 Bel Air Dr., Sikeston 63801; graduate of St. Louis University, 1918; member of St. Louis Metropolitan Medical Society; aged 99; died Jan. 12, 1983.

Bennett R. Wood, M.D., 3442 Geraldine, St. Louis 63115; graduate of St. Louis University, 1926; member of St. Louis Metropolitan Medical Society; aged 83; died Jan. 13, 1983.

Pierce W. Powers, M.D., 5203 Chippewa, St. Louis 63109; graduate of St. Louis University, 1929; member of St. Louis Metropolitan Medical Society; aged 76; died Jan. 19, 1983.

A. E. Sevastianos, M.D., 52 E. Ladue Estates, St. Louis 63141; graduate of University of Athens, 1950; member of St. Louis Metropolitan Medical Society; aged 63; died Jan. 19, 1983.

Edmund M. Schmidt, M.D., 10513 Rothwell Dr., St. Louis 63136; graduate of St. Louis University, 1923; member of St. Louis Metropolitan Medical Society; aged 86; died Jan. 22, 1983.

FINANCIAL STATEMENT FOR THE YEAR 1982

LENNERTSON & COMPANY
Certified Public Accountants
ST. LOUIS, MISSOURI 63144

January 31, 1983

Missouri State Medical Association
113 Madison
Jefferson City, MO 65101

Gentlemen,

An examination has been made of the balance sheet of Missouri State Medical Association, a non-profit Missouri corporation, as of December 31, 1982 and attached are the related statements of income and reserves and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned financial statements present fairly the financial position of Missouri State Medical Association at December 31, 1982, and the results of its operations and the changes in its financial position for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Yours very truly,
Lennertson and Company

Exhibit A

Missouri State Medical Association
Balance Sheet, December 31, 1982

Assets		
Current Assets		
Cash in Banks and On Hand	$ 27,148	
Certificates of Deposit	705,000	
Accounts Receivable — Advertisers	14,202	
Accounts Receivable — Others	229	
Accounts Receivable — Debenture Notes	36,619	
Total Current Assets		$ 783,198
Investments (Exhibit C-2)		
Certificate of Deposit	$306,450	
Bonds and Notes at Cost	5,000	
Corporation Stocks at Cost	161,980	
Equity Investments:		
M.S.M.I. — 100% owned	59,464	
Momedico — 16% owned	511,666	
Total Investments		1,044,560
Dues Receivable — Exhibit D (See Reverse-Contra)		7,717
Fixed Assets (At Cost)		
Land	$ 26,000	
Building	137,810	
Furniture and Fixtures	97,803	
Total	$261,613	
Less Reserve for Depreciation	91,759	169,854
Advance for Travel		829
		$2,006,158

Liabilities		
Current Liabilities		
Accounts Payable	$ 6,906	
Note Payable Momedico — due in one year	90,443	
Due Missouri State Medical Foundation	10	
Due County Medical Societies	152	
Total Current Liabilities		$ 97,511
Deferred Credit to Income (Advance Dues)		336,733
Reserve for Uncollected Dues (See Receivables)		7,717
Note Payable — Boatmen's Bank		44,075
Note Payable — Momedico		180,891
Subordinated Debenture Notes		664,325
Reserve for Future Activities — Balance 1/1/82	$604,226	
Gain on Sale of Securities	14,723	
Reinvestment of Permanent Investment Income	63,156	
Federal and State Income Taxes 1982	(10,491)	
Excess of Income Over Expense — Exhibit B	3,292	674,906
		$2,006,158

Exhibit B

Missouri State Medical Association
Income Statement for the Year 1982

Particulars	*General Activities*	*Journal Publication*	*Total*
Dues Received (including $3.00 per member annually for the Journal)	$527,862	$ 16,077	$543,939
Rentals — Annual Session Exhibit Space	16,500		16,500
Annual Session Contributions	575		575
Subscriptions to the Journal — Nonmembers		2,799	2,799
Advertising Space — The Journal		71,055	71,055
Investments — Interests and Dividends	120,304		120,304
Collection Fees on A.M.A. Dues	9,384		9,384
Reimbursed Fees for Services	33,869		33,869
Equity Income — Subsidiaries —			
M.S.M.I. — 100% owned	66,395		66,395
Momedico — 16% owned (Loss)	(64,002)		(64,002)
Total Income	$710,887	$ 89,931	$800,818
Expenses			
Salaries	$229,955	$ 23,292	$253,247
The Journal — Paper, Printing, Etc.		106,008	106,008
Commission on Journal Advertising		9,458	9,458
Commission on Meeting Expenses	154,758		154,758
Computer Expenses	8,520		8,520
Consultation Fee	6,000		6,000
Custodian Fees — Investments	718		718
Depreciation	14,327	1,077	15,404
Dues and Subscriptions	2,648		2,648
Employees' Pension Plan Contributions	30,387	4,508	34,895
Equipment Purchases, Rentals and Repairs	5,996	750	6,746
Insurance — General	1,679		1,679
Insurance — Blue Cross	9,998	1,276	11,274
Interest Expense	32,317		32,317
MMPAC — Administrative Expenses	4,501		4,501
Occupancy Expense	8,188	1,008	9,196
Postage	17,880		17,880
Professional Fees	8,256	1,000	9,256
Public Relations Program	3,281		3,281
Reinvested Fixed Income	63,155		63,155
Stationery, Printing & Office Supplies	9,533		9,533
Student Awards	400		400
Taxes — Payroll	15,631	1,678	17,309
Taxes — Real Estate	609		609
Telephone and Telegraph	11,304	1,242	12,546
Traveling Expenses — Executive Secretary and Assistants	6,188		6,188
Total Expenses	$646,229	$151,297	$797,526
Excess of Income Over Expenses	$ 64,658	$(61,366)	$ 3,292

Exhibit C-1

Missouri State Medical Association
Statement of Commissions and Meeting Expenses
for the Year 1982

Annual Session		$ 48,321
Council		31,679
Delegates to A.M.A.		36,708
Public Affairs		24,959
Women's Auxiliary		5,614
Commissions:		
Commission on Medical Economics, Third Party Medicine and Governmental Relations	$ 215	
Commission on Continuing Education and Health Manpower	3,090	
Committee on Interspecialty Medicine	144	
Committee on Impaired Physicians	1,595	
Committee on Medical Public Affairs	273	
Discretionary Council Fund	1,013	
Liaison Medical Business	1,147	7,477
Total		$154,758

Exhibit C-2

Statement of Investments December 31, 1982

Description		
Central Trust — C.D. 8.375% due 3/28/83		$ 306,450
Arch Fund Inc., Class B	36,500	
Pacific Gas and Electric 4½% due 6/1/90	5,000	41,500
200 shares Aetna Life & Casualty	$7,530	
100 shares Alcan Aluminum LTD	3,703	
200 shares American Tel. & Tel.	11,318	
200 shares Atlantic Richfield Company	8,531	
330 shares Baker International	2,970	
308 shares Belco Petroleum Corporation	9,081	
300 shares Combustion Engineering	11,747	
100 shares Cross and Trecker Corporation	2,525	
200 shares Getty Oil Company	11,531	
100 shares Gilbert Associates, Inc.	4,151	
300 shares Grace W R & Company	11,745	
400 shares Illinois Power Company	9,160	
100 shares Lilly Eli & Company	5,953	
300 shares McGraw Edison Company	9,196	
300 shares Sante Fe Industries	7,245	
100 shares Smithkline Beckman Company	6,078	
100 shares Wheelabrator-Frye Company	3,016	125,480
Total Cost (Market Value $472,517)		$ 473,430
Equity Investments		
M.S.M.I., Inc. — 100% owned		59,464
Missouri Medical Insurance Company — 16% owned		511,666
Total		$1,044,560

Exhibit D

Missouri State Medical Association

Dues Receivable and Membership by Societies
December 31, 1982

MEMBERSHIP

Societies	*Students*	*Junior*	*Active*	*Honor*	*Total*	*Unpaid Dues*
10 Andrew			3	1	4	
14 Audrain		1	25	1	27	
18 Barton			5	1	6	
26 Boone		27	260	18	305	$1,087.50
30 Buchanan			109	19	128	250.00
34 Butler-Wayne-Ripley-Carter			56	4	60	
38 Callaway			12	5	17	
42 Cape Girardeau			102	5	107	218.75
46 Chariton-Macon-Monroe-Randolph			19	7	26	250.00
50 Clay			138	2	140	1,000.00
54 Clinton			4	1	5	125.00
58 Cole			63	7	70	
62 Cooper			7	1	8	125.00
66 Dallas-Hickory-Polk-Dade			9	1	10	
70 Dunklin			19		19	125.00
74 Franklin-Gasconade-Warren			34	6	40	250.00
78 Grand River			32	5	37	281.25
82 Greene			314	30	344	625.00
86 Henry			6	3	9	
94 Howard			6	1	7	
98 Jackson		65	992	186	1,243	1,010.00
102 Jasper			99	14	113	500.00
106 Jefferson			29	2	31	125.00
110 Johnson			13	3	16	
115 Laclede			8		8	
118 Lafayette-Ray			26	1	27	
120 Lake of the Ozarks			17	2	19	
130 Marion-Ralls-Shelby			38	1	39	
135 Mid-Missouri			37	4	41	
138 Mineral Area			31	4	35	
142 Moniteau			2	1	3	
146 Montgomery			1		1	
158 Northwest			22	1	23	125.00
162 North Central			3		3	
166 Ozarks			30	8	38	250.00
170 Pemiscot			10	1	11	125.00
174 Perry-Ste. Genevieve			17	3	20	
178 Pettis			33	2	35	125.00
186 Pike			8		8	250.00
188 Platte			4		4	
189 St. Charles-Lincoln			74	3	77	
190 St. Louis City Metropolitan		141	2,036	274	2,451	375.00
198 Saline			10	2	12	
202 Semo			39	3	42	
206 South Central			29		29	375.00
208 Tri Lakes			10	2	12	
210 Webster			2		2	
214 West Central			29	9	38	
216 St. Louis University	178				178	30.00
218 University of Missouri-Columbia	143				143	45.00
220 University of Missouri-Kansas City	84				84	30.00
222 Washington University	41				41	15.00
Totals	446	234	4,872	644	6,196	$7,717.50 (A)

(Continued in next column)

(A) Delinquent dues of members at December 31, 1982 carried at the request of local Societies. Other delinquent members were dropped from membership in accordance with the by-laws.

Exhibit E

Missouri State Medical Association
Statement of Source and Application of Funds for the Year 1982

Funds Acquired		
Excess of Income over Expenses for year	$ 3,292	
Plus Depreciation (non cash)	15,404	
Funds Provided from Operations		$ 18,696
Decrease in Investments		33,101
Increase in Deferred Credits to Income		98,353
Gain on Sale of Securities		14,723
Reinvestment of Permanent Investment Income		63,156
Total Funds Acquired		$228,029
Funds Applied		
Purchase of Fixed Assets	$ 7,744	
Increase in Travel Advances	195	
Payments on Bank Loans	28,357	
Payments on Momedico Loan	90,443	
Payments on Debenture Notes	9,197	
Federal and State Income Taxes	10,491	
Total Funds Applied		146,427
Balance-Increase in Working Capital		$81,602
Accounted for as follows:		
Increase in Cash and Certificates of Deposit		$138,825
Less: Decrease in Accounts & Notes Receivable	$29,073	
Decrease in Tax Deposit	204	
Increase in Current Liabilities	27,946	57,223
Balance — Increase in Working Capital		$ 81,602

Missouri State Medical Association
Notes to Financial Statements
December 31, 1982

1. *Investments*. Permanent investments with a cost of $473,430 were confirmed by statements from the trust companies. Equity investment in Missouri Medical Insurance Company was obtained from unaudited financial statements prepared by the company's employees. M.S.M.I. equity investment was obtained from audited statements.

2. *Building, Equipment and Depreciation*. The building occupied by the Association with a cost of $137,810 will be depreciated over a useful life of 30 years and the furniture and fixtures in the amount of $97,803 has an average 7 year useful life. Depreciation is computed on a straight line basis.

3. *Dues and Assessments*. Membership dues and assessments received in advance are carried as deferred credit to income and will be picked up as income in the next year. Dues and assessments in effect for each member during the year 1982 are as follows:

	Active	*Junior*	*Student*
Journal	$ 3.00	$ 3.00	$ 3.00
Association General Fund	112.00	7.00	2.00
Foundation Assessment	10.00		
Mo. State Medical Assn. Dues and Assessments	$125.00	$10.00	$ 5.00
Americal Medical Association	285.00	35.00	15.00
Totals	$410.00	$45.00	$20.00

4. *Notes Payable — Boatmen's Bank*. The amount due Boatmens Bank will be paid off as collections are made on the Subordinated Notes. The bank loan is secured by securities held by Mercantile Trust Company.

5. *Subordinated Notes*. The notes are issued without interest or maturity date and interest or repayment is at the discretion of the council of the Missouri State Medical Association, and the restrictions contained in the subordinated notes.

6. *Income Taxes*. The Internal Revenue Service requires that the Association pay taxes on its unrelated business income. For the year ended December 31, 1982, the Association had net income of $32,137 on their unrelated business income, resulting in a tax of $10,513.

FINANCIAL STATEMENT

MISSOURI STATE MEDICAL FOUNDATION DECEMBER 31, 1982

LENNERTSON & COMPANY
CERTIFIED PUBLIC ACCOUNTANTS
ST. LOUIS, MISSOURI 63144

January 31, 1983

Missouri State Medical Foundation
113 Madison
Jefferson City, MO 65101

Gentlemen,

We have examined the balance sheet of Missouri State Medical Foundation as of December 31, 1982, and the related statements of support, revenue and expenses and changes in fund balances for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned statements present fairly the assets and liabilities of Missouri State Medical Foundation at December 31, 1982, arising from cash transactions, and the revenues collected and expenditures made by it during the year then ended, on a basis consistent with that of the preceding year.

Yours very truly,
LENNERTSON AND COMPANY

EXHIBIT A

Missouri State Medical Foundation Balance Sheet (Cash Basis) December 31, 1982

Assets

Current Assets		
Cash — Central Trust Bank	$ 77,317	
Savings Account	868	
3 Month Timed Savings	1,385	
C-D, Central TrustBank — 8.5% due 1/31/83	160,000	
Total Current Assets		$ 239,570
Loans Receivable — Medical Students	$951,083	
Less Reserve for Losses	28,776	922,307
		$1,161,877

Fund Reserve

Balance January 1, 1982		$1,060,373
Additions for the Year 1982		
Interest on Student Loans	$ 32,835	
Interest on Bank Deposits	28,278	
Contributions (detail below)	7,873	
Assessments of Members, Active $10	46,955	115,941
		$1,176,314
Less Expenses for the Year 1982		
Administrative Services	$ 7,500	
Professional Fees	1,100	
Printing, Meetings and Miscellaneous	966	
Provision for Losses on Student Loans	4,871	14,437
		$1,161,877

Contributions

Corporations	$ 100
Tribute	155
Physicians	600
Others	7,018
	$7,873

Missouri State Medical Foundation Notes to Financial Statements December 31, 1982

1. *Income*. Accrued interest on outstanding loans at December 31, 1982 amounted to $48,683.44 and is not included in the loan balance in Exhibit A.
2. *Student Loans*. Summary of Loans Receivable

Loans Receivable January 1, 1982	$ 833,047.52
Loans made during the year	201,000.00
	$1,034,047.52
Less Loan Repayments	80,964.84
Loans Receivable December 31, 1982	$ 953,082.68

3. *Reserve for Losses*. This reserve is carried to offset uncollectible loans and to charge off student loan balances in the event of death.

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All advertisements are subject to approval by the Editorial Board prior to acceptance.

PATHOLOGIST — Central Missouri. Excellent opportunity for a AP/CP Board Certified Pathologist with experience in anatomic and clinical pathology to join the hospital staff of a progressive, 180-bed JCAH-accredited hospital. Physician would serve as the hospital's Chief Pathologist and as Medical Director of a private reference laboratory. Colleges and universities nearby. A competitive compensation package will be offered. Contact: Executive Director, St. Mary's Health Center, 610 West Elm St., Jefferson City, MO 65101. (314) 635-8141, Ext. 352.

M.D. or D.O. — To serve as University Physician and Director of Student Health Center at midwest regional State University with enrollment of 6,000-7,000 in town of 17,000 population. Must be certified in Family Practice or minimum of five years in General Practice. Clinic has lab facilities, pharmacy, 2 RNs, LPN and Registered Lab Technician. Salary negotiable, liberal fringe benefits, clinic open 40 hours/week and only when University in session. Application deadline: May 1, 1983. Position open August, 1983. Send resume, letter of application, undergraduate and medical school transcripts to: University Physician Screening Committee Chairman, Science Building, Northeast Missouri State University, Kirksville, MO 63501. An AA/EO employer.

PHYSICIANS SIGNATURE LOANS — To $50,000. Competitive fixed rates. No collateral. Up to seven years to repay with no prepayment penalties. Prompt, courteous service. Competitive fixed rate, with no points, fees or charges of any kind. Physicians Service Association, Atlanta, GA. (800) 241-6905. Serving M.D.s for over ten years.

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FAMILY PHYSICIAN — Full-time opening in St. Louis County for Board Certified physician interested in family practice and occupational/industrial medicine. An interesting, challenging practice with sufficient time for family and education. Excellent salary first year and then partnership. Send resume to CA-Box 461, Missouri State Medical Association, P.O. Box 1028, 113 Madison, Jefferson City, MO 65102.

WANTED — FAMILY PRACTICE PHYSICIAN — A 54-bed acute care hospital is seeking a Missouri-licensed Family Practice Physician for a satellite clinic in a rural community in Western Missouri. Location is close to recreational areas in Kansas City and Lake of the Ozarks. The hospital has several incentive programs for the right physician. Please send CV to Sam Fowler, Administrator, Kelling Hospital, P.O. Box 155, Waverly, MO 64096 or call collect (816) 493-2211, ext. 39.

FOR RENT/SALE — Timeshare resort property at Lodge of Four Seasons on Lake of the Ozarks. Fully furnished three bedroom accomodates six persons or more. Includes golf, fishing, Lodge facilities and more. May 13-20 full week or weekend. $80/night rental. $5,200 purchase. Phone (314) 893-2738 evenings.

ST. LOUIS UNIVERSITY MEDICAL CENTER — Is currently seeking primary care physicians for the following programs: (1) Doctors House Calls, (2) Industrial Medicine, (3) Emergency Department. Excellent remuneration and malpractice coverage provided. Please contact: Kathleen Stephens, Assistant Administrator, St. Louis University Hospitals, 1325 S. Grand Blvd., St. Louis, MO 63104. (314) 771-5116. Equal Employment Opportunity Employer.

CHRONIC PAIN REHABILITATION PROGRAM — Part-time Medical Director needed to direct new hospital-based program. We are looking for a board certified physician who is knowledgeable in the rehabilitation of patients with chronic pain. Position is immediately available. Contact: Robert Hill, M.D., Chief of Medicine, Deaconess Hospital, 6150 Oakland Ave., St. Louis, MO 63139.

SUMMER CME CRUISE/CONFERENCES ON LEGAL-MEDICAL ISSUES — Alaskan, Caribbean, Mediterranean. Ten to 14 days in July and August. Approved for 24 CME Cat. I credits (AMA/PRA). Distinguished professors. Fly round-trip free on Caribbean and Alaskan cruises. Excellent group fares on finest ships. Registration limited. Scheduled prior to 12/31/80 — Tax deductible under 1976 Tax Reform Act. Information: International Conferences, 189 Lodge Ave., Huntington Station, NY 11746. (516) 549-0869.

PRACTICE OPPORTUNITY — $100,000 package first year. Family practice. Near Kansas City. Call Cheryl Powell, Health Resources, Ltd. (816) 587-0920.

VICE-PRESIDENT MEDICAL AFFAIRS — Our private health care corporation is seeking a physician to assume the Vice-President of Medical Affairs position. Initially this position requires 16 hours per week and with company expansion, will develop into a full time position. Responsibilities include: auditing selected medical charts, correspondence with key practitioners at contract sites, assist in marketing of new contracts and contract consulting visits. A current unrestricted Missouri or Illinois Physician's License, Board Certification in Family Practice, Internal Medicine or Emergency Medicine, administrative experience and demonstrated leadership ability is required. Competitive salary, malpractic insurance and other benefits are offered by our corporation. Please forward a copy of your curriculum vitae to: Brenda Hickey, Recruiter — Correctional Medical Systems, 999 Executive Parkway, St. Louis, Missouri 63141 (314) 878-2280.

in Brief

A summary of AMA, medical & health news

American Medical Association/535 North Dearborn Street/Chicago, Illinois 60610/Phone (312) 527-1500/TWX 910-221-0300

PATIENT'S LEVEL of satisfaction with their physicians has increased in every year since 1978. A public opinion survey conducted by an independent research firm for the AMA found that satisfaction with every aspect of the most recent visit — including treatment by staff, physicians' willingness to explain, office waiting time, length of time to get an appointment and quality of medical care — has increased over previous levels, from 87% in 1978 to 94% in 1982. The increasing physician-to-patient ratio doubtless is a major factor in improving satisfaction, the pollsters said. Physicians have more time to spend with the patients after a shorter wait. Staff members are less hurried, and physicians are able to take a few extra minutes to explain medical matters, the report noted.

THE AMA SUPPORTED proposed rule changes that would streamline FDA approval of new drugs. A number of the provisions in the proposed rule are close to draft amendments to the Food, Drug and Cosmetic Act that were developed by the AMA in 1977 and also are similar to recommendations of the Commission on the Federal Drug Approval Process. The AMA has long been concerned about the so-called "drug lag," the AMA said in a letter to FDA Commissioner Arthur Hull Hayes, Jr., M.D. By eliminating unnecessary regulation requirements, the proposed FDA rule changes will make drugs available for patients "in shortest possible time consistent with safety and effectiveness," the AMA said.

THE AMA OPPOSED a bill to authorize direct payment to "mental health specialists" under the Medicare and Medicaid programs. In a statement submitted to the House Subcommittee on Health, the AMA said HR 6092 "would needlessly expand the Medicaid and Medicare programs while failing to assure the maintenance of adequate health care coverage for program beneficiaries." While individuals trained as "mental health specialists" may be able to perform psychoanalytic functions, these non-M.D.s lack the expertise to identify or treat a mental health problem that is caused by a medical condition, the AMA told the subcommittee.

THE NUMBER OF allied health professionals (AHP) per office-based practice has increased almost five-fold in the past seven years, rising from 0.47 in 1975 to 2.25 in 1981, the AMA's Socioeconomic Monitoring System (SMS) reported. The number of AHPs per physician also is growing. In 1975, 31 full-time AHPs were employed per 100 physicians. This number had increased 58% by 1981, when 49 AHPs were employed per 100 physicians. The total number of full-time equivalent nonphysician personnel, which includes nurses and secretarial staff as well as AHPs, rose from 2.24 per practice in 1975 to 6.25 in 1981. The nursing staff increased from 0.67 to 1.50 per practice, and the secretarial staff rose from 1.10 to 2.50 per practice.

REVISIONS OF THE "Accreditation Manual for Hospitals" were supported by the AMA's seven representatives to the Joint Commission on Accreditation of Hospitals. The proposed revisions of the 16-page medical staff section would limit the organization's legal exposure to antitrust suits. Plaintiffs in three such lawsuits have accused the JCAH of restricting staff membership and privileges of licensed nonphysicians. The language changes are consistent with positions adopted by the AMA House of Delegates at the 1977 and 1982 Interim Meetings.

MEDICAL RECORDS of employees who are exposed to toxic substances or hazardous physical agents should remain confidential, the AMA told the Occupational Safety and Health Administration. In commenting on a proposed regulation that would require employers to allow workers or their designated representatives to look at records maintained by the company, the AMA urged that the rule be amended to permit access by designated representatives of an employee only when the representative is a licensed physician. The AMA said an employee might not disclose personal information if he or she knew that the records were open to inspection by OSHA officials. In addition, the physician's awareness that his tentative diagnoses and opinions may be inspected and possibly misinterpreted could have an adverse effect on professional communications, the AMA said.

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References: 1. Kales A *et al: J Clin Pharmacol 17*:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **3.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **4.** Kales A *et al: JAMA 241*:1692-1695, Apr 20, 1979. **5.** Kales A, Scharf MB, Kales JD: *Science 201*:1039-1041, Sep 15, 1978. **6.** Kales A *et al: Clin Pharmacol Ther 19*:576-583, May 1976. **7.** Kales A, Kales JD: *Pharmacol Physicians 4*:1-6, Sep 1970. **8.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **9.** Dement WC *et al: Behav Med 5*:25-31, Oct 1978. **10.** Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **11.** Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. **12.** Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. **13.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

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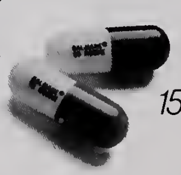

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Please see summary of product information on reverse side.

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Missouri Medicine

Vol. 80, No. 4 (ISSN 0026-6620) April, 1983

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Editor's Corner

MISSOURI STATE MEDICAL ASSOCIATION

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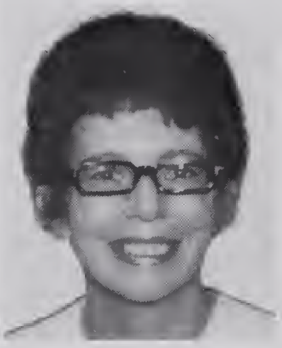

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April 1983

PROGRESS NOTES

missouri state medical association

MSMA Delegates Pass Dioxin Resolution

In light of the mushrooming amount of public fright concerning dioxin, delegates to the Missouri State Medical Association voted unamimously to begin an active campaign to get accurate information on dioxin before the general public.

The vote, taken by the MSMA House of Delegates at its 125th Annual Convention March 17-20 at Tan-Tar-A, directs the MSMA to "attempt to prevent irrational reaction and possibly unjustified public fright and to prevent dissemination of possible erroneous information (on dioxin)."

The 6,100-member MSMA also voted to support Missouri's entry into the Midwest Interstate Compact on Low-Level Radioactive Waste and urged both the Governor and the General Assembly to pass quickly the necessary legislation to accomplish this.

In other actions, the Missouri physicians endorsed an action plan for improving health care for indigents. The MSMA voted unanimously to seek to provide a climate of health care for indigent patients who are unable to pay for care due to unemployment or due to a reduction in federal funds needed for proper care. In addition, the MSMA also resolved to educate the state's physicians on the need to accept more Medicaid patients.

The delegates adopted two bylaw changes. The first eliminates the Voluntary Health Agencies Committee and the second extends the Missouri State Medical Foundation $10 assessment on MSMA members for an additional three years.

Also adopted were the following resolutions:

* *Formation of Statewide Peer Review Organizations* — MSMA will join with MAOPS to form a new corporation to seek to contract with the U.S. Department of Health and Human Services the responsibiliby of a professional statewide peer review organization.

* *Electroconvulsive Therapy* — MSMA will support legislative changes to delete the requirement that legal guardians obtain court orders authorizing electroconvulsive therapy for patients who have been declared incompetent.

* *Delay in Patient Compensation by Medicare and Medicaid Agencies* — MSMA will study solutions to insure prompt payment. Unreasonable delays in payments would be compensated at the same interest charged by the IRS for failure to make prompt payment.

* *Cigarette Smoking in Public Areas* — MSMA will actively support the introduction of legislation for the prohibition of cigarette smoking in public indoor areas.

* *Increased Membership* — MSMA will solicit membership at medical school freshman orientation and will study the possible "deleterious" effects of "direct" membership in the AMA.

* *Elimination of Student Member Dues* — MSMA will eliminate the present $5 annual dues for medical students.

* *Involvement in the Political Process* — Each component medical society is requested to annually submit a list of members who shall act as "Key Contacts" for legislators from that area.

* *Long Range Planning Seminar* — MSMA will annually evaluate the progress of the actions developed at the past planning seminar and will schedule a long-range planning seminar at least once every five years.

* *Joint Commission on Accreditation of Hospitals* — MSMA will inform the AMA that the JCAH's special medical record standard for psychiatry is unacceptable to pyschiatry and must be re-evaluated and corrected in an acceptable fashion.

Youmans Installed

ME
ASSOCIAT

MSMA President Ronald A. Youmans, M.D., accepts the President's gavel from Immediate Past-President John I. Matthews, M.D.

Dr. Ronald A. Youmans, a Kansas City neurologist, was installed as the new president of the Missouri State Medical Association at its Annual Convention March 17-20 at Tan-Tar-A.

Dr. Youmans succeeds Dr. John I. Matthews, Jefferson City, as president. The new president-elect is James M. Stokes, a St. Louis general surgeon.

In other elections, the MSMA House of Delegates elected Dr. Barbara Buchanan, Kansas City, as Speaker and Dr. Arlen D. Winsky, Springfield, as vice-speaker. The delegates also elected three vice-presidents, three AMA delegates, and three alternate AMA delegates.

continued on page 3

MSMA 125th Annual Convention

March 17-20 *Tan-Tar-A*

MISSOURI STATE
MEDICAL ASSOCIATION
3

The MSMA House of Delegates considered and took action on 22 resolutions ranging in subject from dioxin to electroconvulsive therapy.

James M. Stokes, M.D., a St. Louis general surgeon, was named President-Elect during the House of Delegates final session.

(left) *Two brothers, Drs. Douglas G. Kelling (center) and Jordan A. Kelling (right) each received 50-year pins from Immediate Past-President John Matthews for completing 50 years of service in the practice of medicine.* **(below)** *Dr. Harrison L. Rogers, AMA Speaker of the House, brought the MSMA House of Delegates up-to-date on current AMA activities.*

(above) *Dr. Raymond A. Ritter, Sr., Cape Girardeau, is escorted by Drs. Melvin Kasten and Charles McGinty to the podium to receive the Award for Citizenship and Community Service.* **(below)** *The exhibits were well-attended this year, much to the pleasure of the 45 exhibitors, whose wares ranged from pharmaceuticals to computers to paintings.*

AVIS
POWELL

MISSOURI
STATE
MEDICAL
ASSOCIATION

continued from page 1

The new officers are:

Vice Presidents

Robert C. Fairchild, M.D. Shawnee Mission, Kan.
John H. Waterscheid, M.D., Hannibal
Virgil E. Jeans, M.D., Joplin

AMA Delegates

Richard P. Bowles, M.D., Liberty
Melvin C. Kasten, M.D., Cape Girardeau (re-elected)
Robert A. Slickman, M.D., Kansas City (re-elected)

AMA Alternates

Robert MacDonald, Jr., M.D., St. Louis
Larry G. Piepergerdes, M.D., Kansas City
Vernon Balster, M.D., St. Louis (re-elected)
Marvin Singleton, M.D., Joplin (re-elected)

Councilor district elections were held for those councilors whose terms expired with the Annual Convention. In a Council meeting following the MSMA House of Delegates on March 20, the Council elected Dr. Walter A. German, Springfield, as chairman of the Council and Dr. H. Peter Ekern, Mexico, vice-chairman. Dr. Jay Meyer, St. Louis, was elected treasurer and Dr. H. Berry Ivy, Springfield, was elected secretary.

The following Councilors and Vice Councilors were elected or re-elected:

Second District

Robert V. Tompson, M.D., Moberly
Carl R. Kruse, M.D., Palmyra (vc)

Third District

Thomas J. Cooper, M.D., St. Louis
Carol F. Williams, M.D., St. Louis
Richard H. Fallon, M.D., St. Louis
Robert R. MacDonald, M.D., St. Louis
David Wilkinson, M.D., St. Louis (vc)

Fourth District

William R. Richardson, M.D., Union
Paul H. Rother, M.D., St. Charles (vc)

Sixth District

A. J. Campbell, M.D., Sedalia
Jerry Meyer, M.D., Concordia (vc)

Seventh District

Donald E. McIntosh, M.D., Kansas City
Larry G. Piepergerdes, M.D., Kansas City
Dorothy D. Reister, M.D., Shawnee Mission, Kan. (vc)

Tenth District

George H. Ladyman, M.D., Poplar Bluff
Melvin C. Kasten, M.D., Cape Girardeau (vc)

Students

Tom Reardon, Kansas City
Marv Collette Schmidt, Columbia (vc)

Foundation Elects Officers

The Board of Trustees of the Missouri State Medical Foundation re-elected its officers during its annual meeting March 18 at Tan-Tar-A, Osage Beach.

The Board officers of the Foundation are: Miles C. Whitener, M.D., St. Louis, president; Mary E. Case, M.D., St. Louis, vice-president; and Robert H. Tanner, M.D., Jefferson City, secretary-treasurer.

Frederick W. Hahn, M.D., Kansas City, was also re-elected to another term on the Board.

Other Foundation Board of Trustee members are: Max S. Franklin, M.D., St. Louis; Gary A. Dyer, M.D., St. Joseph; Carl C. Pearman, M.D., Joplin; Albert D. Cross, M.D., Trenton; Larry P. Courter, M.D., Jefferson City; and John P. Sargent, M.D., Sikeston. MSMA President Ronald A. Youmans, M.D., Kansas City, serves as an ex-officio member.

And the Winners Are . . .

Five Missouri physicians attending the 125th MSMA Annual Convention were the proud winners of Kodak 8000 disc cameras.

All MSMA members registered at the convention were eligible to participate in the drawing and could register at any of the 46 exhibit booths.

The winners were: Edward Shaw, M.D., St. Louis; Ben Moranville, M.D., Columbia; Gene Farthing, M.D., Springfield; Daniel Campbell, M.D., Mount Vernon; Albert Campbell, M.D., Sedalia.

Patient Satisfaction Up

Patients' level of satisfaction with their physicians has increased continuously since 1978.

A public opinion survey conducted by an independent research firm for the AMA found that satisfaction with every aspect of the most recent visit — including treatment by staff, physicians' willingness to explain, office waiting time, length of time to get an appointment, and quality of medical care — has increased over previous levels, from 87 percent in 1978 to 94 percent in 1982.

The increasing physician-to-patient ratio doubtlessly is a major factor in improving satisfaction, the pollsters reported. Physicians have more time to spend with their patients after a shorter office wait. Staff members are less hurried, and physicians are able to take a few extra minutes to explain medical matters to their patients.

Physicians Increasing

The number of U.S. physicians is increasing faster than the population at large. Between 1976 and 1981, the number of physicians increased 18.5 percent while the U.S. population increased 5.4 percent. As a result, the population-to-physician ratio has decreased 11 percent since 1976, according to figures recently released by the AMA Physician Masterfile.

At the end of 1981, there were 485,123 medical doctors, 230.5 million people, and an average of 210.4 physicians for every 100,000 population.

Child Auto Restraint Bill Progresses

Action was taken in both houses of the Missouri General Assembly recently on several pieces of significant medical legislation.

By a wide margin, the House passed HB 29 which requires children under the age of four to be placed in an approved child auto restraint while riding with their parents or legal guardians. The bill, which has been strongly supported by MSMA, now goes to the Senate Health Committee.

The House also passed an amended version of HB 825 which establishes a two-year moritorium on the construction of new hospital and nursing home beds. The bill was amended to exempt most rural areas and to reduce the length of the moratorium from four to two years.

Two bills relating to cancer progressed through the Senate recently. SB 307 passed. The bill is an attempt to aid the Ellis Fischel State Cancer Center in becoming more self-supporting by expanding the powers of the Center's board. In addition, the Senate approved a bill which would estabish a Missouri Cancer Reporting System.

A highly emotional and controversial bill relating to medicine remains idle in the Senate Budget Committee. The bill would mandate that all handicapped infants receive prolonging medical treatment. Passage of the bill, which is a response to the "Baby Doe" case in Indiana, is being aggressively sought by pro-life groups who are trying to offer legislative protection for severely handicapped infants. The problem lies in the fact that it is difficult to draft legislation which will apply fairly because of the many different handicaps and varying degrees of handicaps.

It is important that all Missouri physicians realize the significance of MSMA's lobbying activties and the vital role that needs to be played at the grassroots by MSMA physicians. Currently, the MSMA staff is monitoring action on more than 175 bills. If these bills do not directly affect your patients or practice to this time, they could be amended to do so.

The Association has presented testimony on 25 to 30 issues and has been "up front" on 15 to 20 other bills. You can understand the task involved when you consider that the 197 members of the Missouri General Assembly must be contacted on each of these issues, and some must be contacted more than once. In addition, as each bill is amended, our position on the amended bill must also be explained.

A constant appeal has been made for local physician contacts for each legislator. To date, the response has been weak. Please contact the Association if you are willing to help your profession and your practice by becoming involved in MSMA's legislative efforts.

Board of Healing Arts Takes Disciplinary Actions

The Missouri Board of Healing Arts took 101 disciplinary actions in 1982. These actions included four revocations, 10 probations, 15 voluntary surrenders, one suspension, one impaired physician referral, nine reinstatements, and 42 cases closed.

In related news, members of the Board of Healing Arts recently elected S. N. Riggio, M.D., St. Louis, as new Board president and Wilber B. Spalding, Jr., M.D., Kansas City, as secretary.

The other members of the Missouri Board are William H. Voss, D.O., Jefferson City; George H. Ladyman, M.D., Poplar Bluff; Carroll R. Wetzel, D.O., Clinton; Bray O. Hawk, M.D., St. Louis; Phillip W. Pitney, M.D., Louisiana; and Lanis Hicks, Ph.D., Columbia.

Acupuncture

A bill is before the Missouri General Assembly which would allow non-physicians to practice acupuncture. The primary argument in support of the bill is that currently the practice of acupuncture is limited to medical and osteopathic physicians, but that M.D.'s and D.O.'s are not using acupuncture.

If you know of M.D.'s or D.O.'s who do use acupuncture in their practice, please inform MSMA Headquarters as soon as possible. Their assistance could be helpful in considering this bill.

Collecting Bad Debts?

Most physicians today face the growing dilemma of how to collect bad debts from some patients. I.C. System, a nationwide collection agency, has introduced a new option, litigation, to compliment the mail and telephone procedures it uses to collect bad debts for its members.

As in the past, the company will contact each debtor by mail and telephone for six to eight months. The company, which collected $52.8 million for creditors in 1982, uses persistent persuasion with an emphasis on collecting without damaging the physician's image in the community.

I.C. System's efforts to collect get stronger as time progresses. If the debtor turns a blind eye and a deaf ear to these efforts for six months, the company releases the account back to the physician with a recommendation that the account be referred to an attorney with full authority to collect.

Under the new program, I.C. System proceeds as it has in the past, with one major addition. If the physician does not have an attorney who handles collection work, or if the debtor lives outside the area where the attorney is authorized to practice, I.C. System will put the physician in touch with a qualified attorney.

This new litigation option is available to all physicians who join the I.C. System program on or after January 1, 1983. Members who joined prior to 1983 may add the litigation option or remain under their existing program. Contact MSMA for more information.

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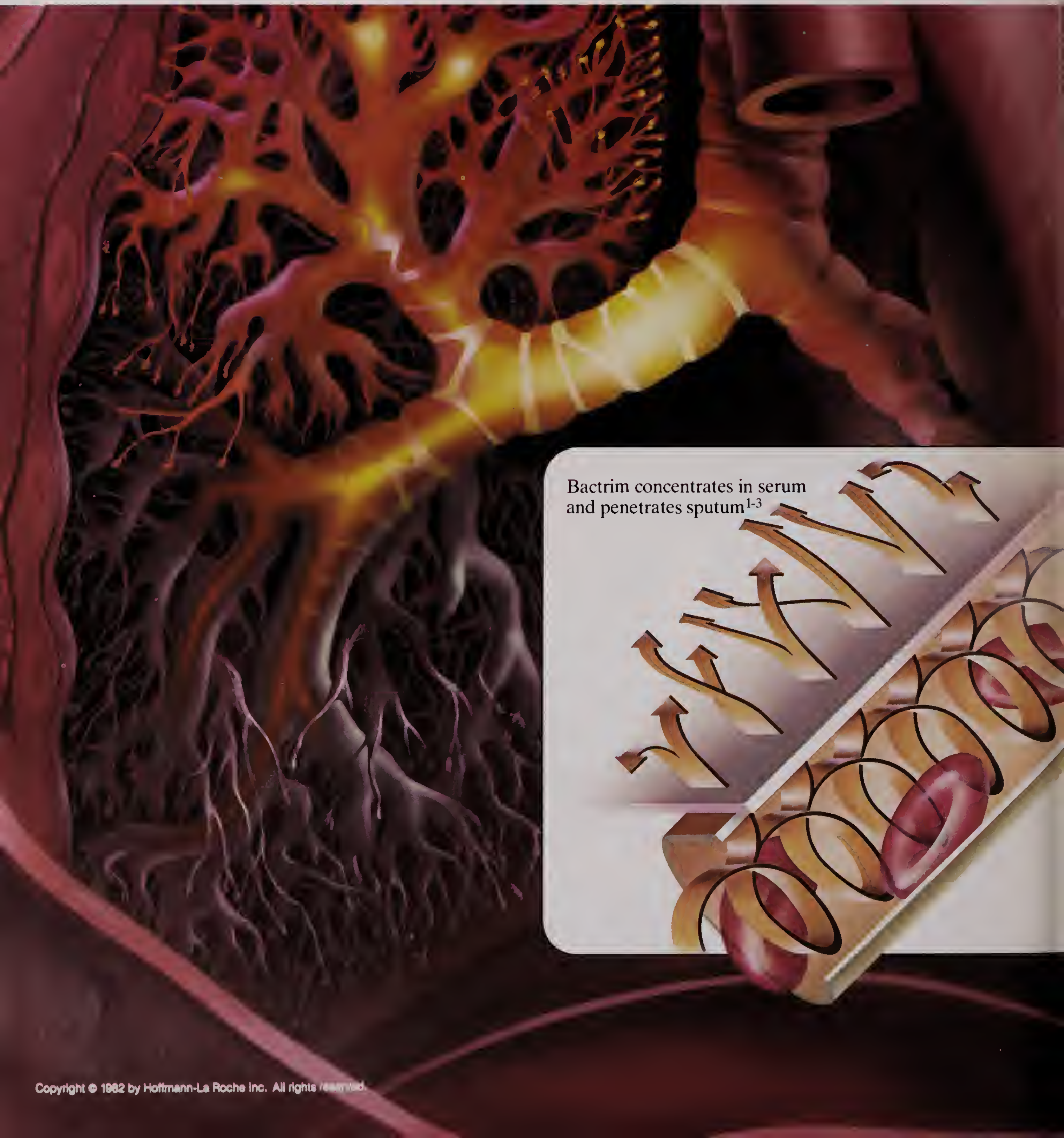
J-9043-4 July 1981

Bactrim™ attacks the
(trimethoprim and sulfamethoxazole/Roche)
# in acute exacerbations



Bactrim concentrates in serum and penetrates sputum[1-3]

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ROCHE®

major pathogens of chronic bronchitis*

Bactrim clears sputum of susceptible bacteria

In sputum cultures from patients with acute exacerbations of chronic bronchitis, *H. influenzae* and *S. pneumoniae* are isolated more often than any other pathogens.[4,5] One study of transtracheal aspirates from 76 patients with acute exacerbations found that 80% of the isolates were of these two pathogens.[5]

Bactrim is effective *in vitro* against most strains of both *S. pneumoniae* and *H. influenzae*—even ampicillin-resistant strains. And in acute exacerbations of chronic bronchitis involving these two pathogens, sputum cultures taken seven days after a two-week course of therapy showed that Bactrim eradicated these bacteria in 91% (50 of 55) of the patients treated.[6]

Bactrim reduces coughing and sputum production

In three double-blind comparisons with ampicillin *q.i.d.*, Bactrim DS proved equally effective on all clinical parameters.[7-9] Bactrim reduced the frequency and severity of coughing, reduced the amount of sputum produced and cleared the sputum of purulence.

Bactrim has the added advantages of *b.i.d.* dosage convenience and a lower incidence of diarrhea than with ampicillin, and it is useful in patients allergic to penicillins.

Bactrim also proved more effective than tetracyclines in 10 clinical trials involving nearly 700 patients.[10] Overall clinical condition of the patients, changes in sputum purulence, reduction in sputum volume and microbiological clearance of pathogens—all improved more with Bactrim therapy than with tetracyclines. G.I. side effects occurred in only 7% of patients treated with Bactrim compared with 12% of tetracycline-treated patients. (See Adverse Reactions in summary of product information on next page.)

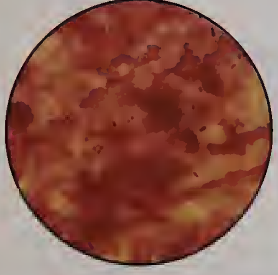
Bactrim is contraindicated in pregnancy at term and nursing mothers, infants under two months of age, documented megaloblastic anemia due to folate deficiency and hypersensitivity.

Bactrim DS. For acute exacerbations of chronic bronchitis in adults* when it offers an advantage over single-agent antibacterials.

References: **1.** Hughes DTD, Bye A, Hodder P: *Adv Antimicrob Antineoplastic Chemother 1/2*:1105-1106, 1971. **2.** Jordan GW *et al: Can Med Assoc J 112*:91S-95S, Jun 14, 1975. **3.** Beck H, Pechere JC: *Prog Antimicrob Anticancer Chemother 1*:663-667, 1969. **4.** Quintiliani R: Microbiological and therapeutic considerations in exacerbations of chronic bronchitis, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts;* Princeton Junction, NJ, Communications Media for Education, Inc., 1980, pp. 9-12. **5.** Schreiner A *et al: Infection* 6(2):54-56, 1978. **6.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **7.** Chodosh S: Treatment of acute exacerbations of chronic bronchitis: results of a double-blind crossover clinical trial, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts. Op. cit.*, pp. 15-16. **8.** Chervinsky P: Double-blind clinical comparisons between trimethoprim-sulfamethoxazole (Bactrim™) and ampicillin in the treatment of bronchitic exacerbations. *Ibid.*, pp. 17-18. **9.** Dulfano MJ: Trimethoprim-sulfamethoxazole vs. ampicillin in the treatment of exacerbations of chronic bronchitis. *Ibid.*, pp. 19-20. **10.** Medici TC: Trimethoprim-sulfamethoxazole (Bactrim™) in treating acute exacerbations of chronic bronchitis: summary of European clinical experience. *Ibid.*, pp. 13-14.

attacks *H. influenzae*—even ampicillin-resistant strains

attacks *S. pneumoniae*



Economical b.i.d.

Bactrim™ DS

(160 mg trimethoprim and 800 mg sulfamethoxazole/Roche)

*Due to susceptible organisms. **Please see next page for summary of product information.**

Bactrim™

(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:
Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii.* It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.
For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.
For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.
For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.
Also for the treatment of documented *Pneumocystis carinii* pneumonitis.
Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.
Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.
Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.
Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.
Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.
Dosage: Not recommended for infants less than two months of age.
URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:
Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.
Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.
For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.
ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS
Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.
PNEUMOCYSTIS CARINII PNEUMONITIS:
Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.
Supplied: *Double Strength (DS) tablets,* each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100; Prescription Paks of 20 and 28. *Tablets,* each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100, Prescription Paks of 40. *Pediatric Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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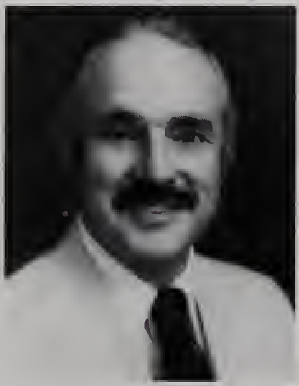

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Program Director, Medical Association of Georgia's Disabled Doctors Program

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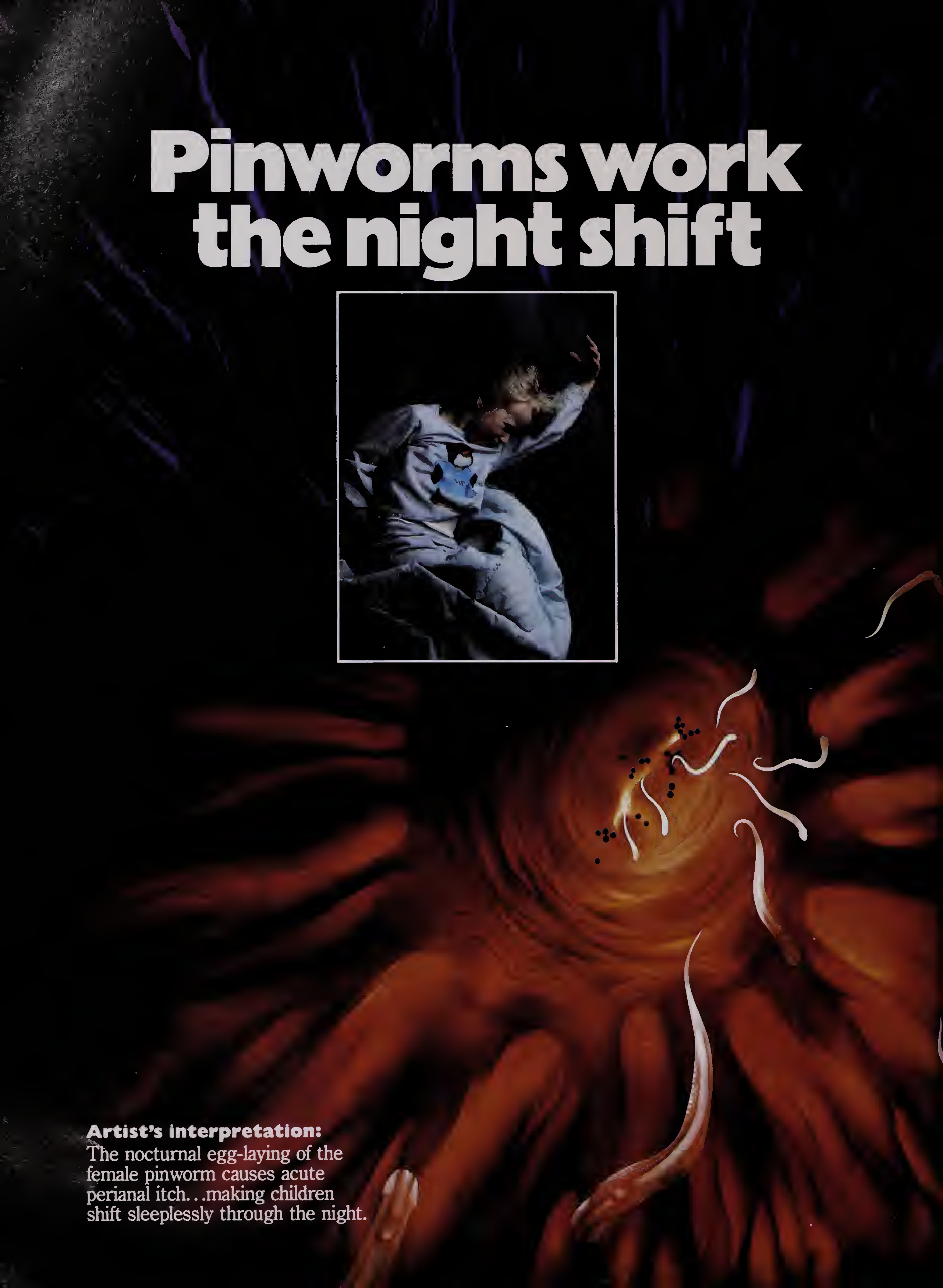
Pinworms work the night shift



Artist's interpretation:
The nocturnal egg-laying of the female pinworm causes acute perianal itch. . .making children shift sleeplessly through the night.

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In some parts of the world, large populations are afflicted with helminthic infections. Physicians in endemic areas have become experts on parasitic diseases—and have come to rely on Antiminth for the rapid cure of infestations. Antiminth is recommended as an agent of first choice for pinworm and roundworm by leading medical authorities.[3]

Warnings

Usage in Pregnancy Reproduction studies have been performed in animals and there was no evidence of propensity for harm to the fetus. The relevance to the human is not known.

There is no experience in pregnant women who have received this drug.

The drug has not been extensively studied in children under two years; therefore, in the treatment of children under the age of two years, the relative benefit/risk should be considered.

Precautions

Minor transient elevations of SGOT have occurred in a small percentage of patients. Therefore, this drug should be used with caution in patients with pre-existing liver dysfunction.

Adverse Reactions

The most frequently encountered adverse reactions are related to the gastrointestinal system.

Gastrointestinal and hepatic reactions: anorexia, nausea, vomiting, gastralgia, abdominal cramps, diarrhea and tenesmus, transient elevation of SGOT.

CNS reactions: headache, dizziness, drowsiness, and insomnia. Skin reactions: rashes.

Dosage and Administration

Children and Adults Antiminth Oral Suspension (50 mg of pyrantel base/ml) should be administered in a single dose of 11 mg of pyrantel base per kg of body weight (or 5 mg/lb.); maximum total dose 1 gram. This corresponds to a simplified dosage regimen of 1 ml of Antiminth per 10 lb. of body weight. (One teaspoonful = 5 ml.)

Antiminth (pyrantel pamoate) Oral Suspension may be administered without regard to ingestion of food or time of day, and purging is not necessary prior to, during, or after therapy. It may be taken with milk or fruit juices.

References **1.** Pitts NE, Migliardi JR: *Clinical Pediatrics* 13:87, 1974. **2.** Modell W: *Drugs of Choice* 1980-1981. C. V. Mosby Co., St. Louis, 1980, p. 362. **3.** Goodman LS, Gilman A: *The Pharmacologic Basis of Therapeutics*, 6th edition, MacMillan Publishing Co., Inc., New York, 1980, p. 1032.

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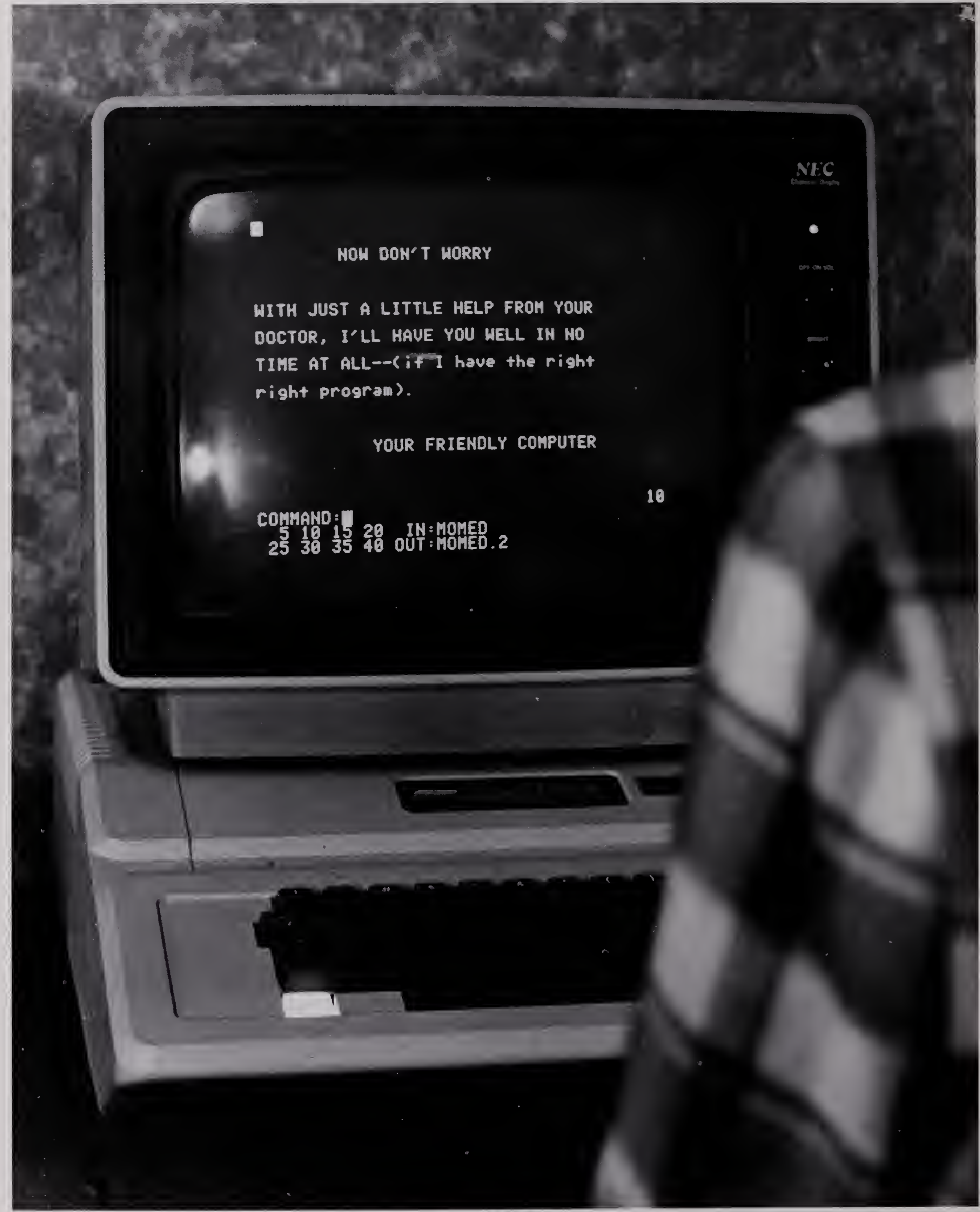

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Editor's Corner

EDITORIAL

> *"Our natural desire of acquiring knowledge is ever attended with a consciousness of our ignorance; and our pride is ever repressed at every step we take by the limited nature of our facilities —"*

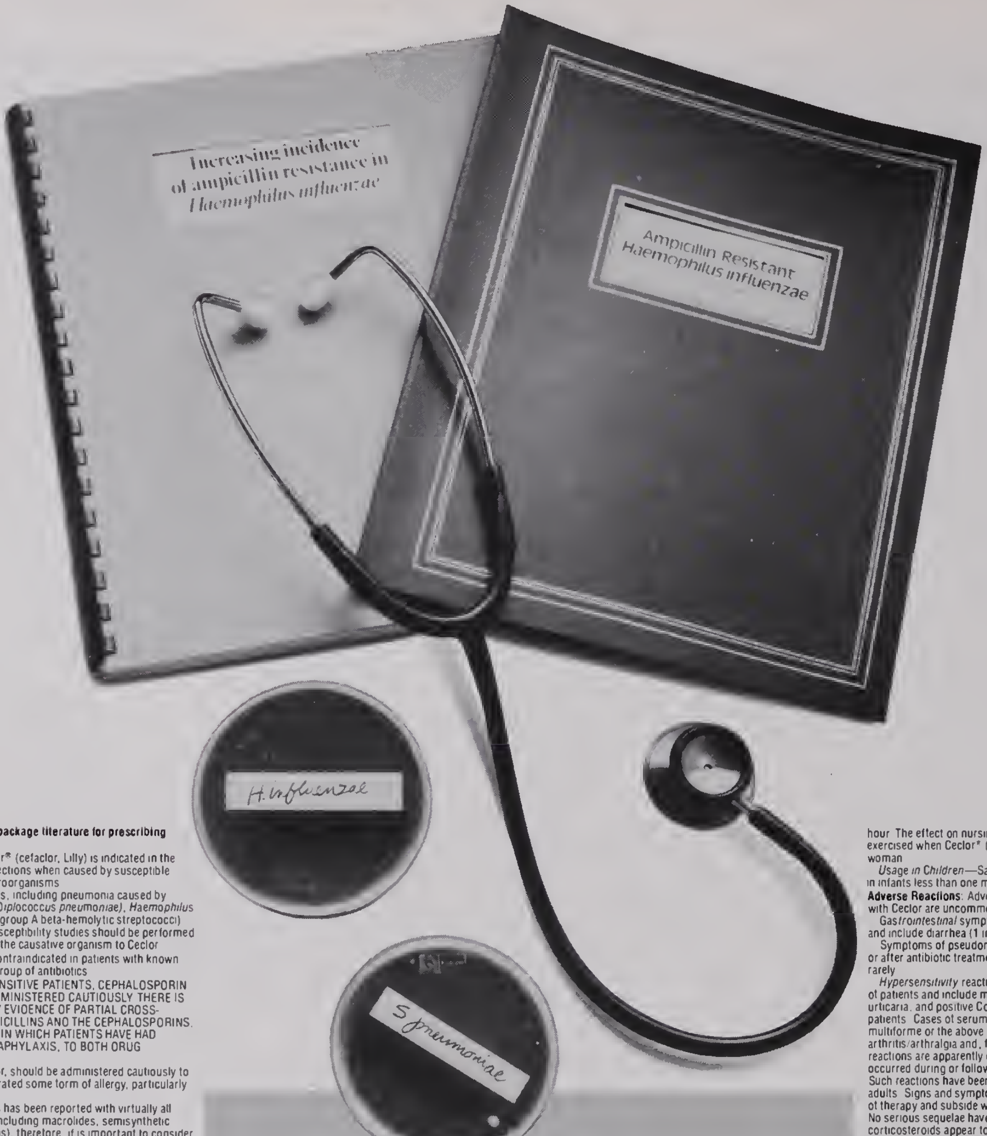
So wrote the author of the 395-page "Young Man's Book of Knowledge" — a compendium of all there was to know about all the Arts and Sciences circa 1833. It seems a little uncertain now just what sort of a problem a person might have had 150 years ago in handling the knowledge of that day. Apparently, the frustration we often feel in trying to assimilate and categorize all that's new in this changing world is not a new sensation. As often happens, however, along with the problem comes an answer. Just when the many new discoveries in a scientific realm become so profuse as to require intricate categorization to be usable, with instant availability necessary to be of use, along comes the computer to help solve this knowledge crunch problem.

Every area of endeavor is making use of this complex information gadget, and it's obvious that medical practice is rapidly going to become geared to using the computer in many ways. During the past decade, computer use in medicine has been going through an evolution from banking information to a role in putting facts together and coming up with answers — the process termed AIM (Artificial Intelligence in Medicine). Some of the advanced medical computer development has been carried out at Rutgers University in New Jersey and at Stanford University in California. Here in Missouri, a group of physicians at the University of Missouri-Columbia, have been utilizing the AIM concept in developing a computer protocol for management of hemostasis, described in an article in this issue of MISSOURI MEDICINE. Some of the medical computers have been developed by close observation and analysis of the thinking and decision of some leading physicians as concerns certain specific medical problems being studied. As has been reported previously, researchers in Pittsburgh recently gave a part of an Internal Medicine Board test to a computer, and it "passed."

An AMA survey last year indicated that 37% of physicians in private practice adopt at least one new procedure every year; 14% drop one or more old procedures, and 77% replace old procedures with new ones annually. Obviously, there is quite an array of new methods to be assimilated and used. Equally obvious, the computer is coming on the scene very soon to help us out — maybe just in time. Great-grandfather probably figured he'd digested a lot of information after he waded through his Book of Knowledge, and he probably pondered on his "limited facilities" in retaining all those facts. It seems as though in the future we are going to have to face up to our intellectual limits and call for electronic help. The computer may not always agree with our diagnosis and treatment ideas, but at least we can switch it off.

JORDAN W. BURKEY, M.D.

An added complication... in the treatment of bacterial bronchitis*


Increasing incidence of ampicillin resistance in Haemophilus influenzae
Ampicillin Resistant Haemophilus influenzae
H. influenzae
S pneumoniae

Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

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cefaclor

Pulvules®, 250 and 500 mg

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and *S pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by C *difficile* Other causes of colitis should be ruled out

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e g , pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

(061782R)

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*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S pneumoniae* or *H influenzae* [8]

Note Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information.

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Volume 80, Number 4—April, 1983

Missouri Medicine

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LAMONT W. GASTON, M.D., DONALD A. B. LINDBERG, M.D.,
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AI/COAG, A Knowledge-Based Surrogate For the Human Hemostasis Expert

Computer systems that provide informational support for clinical laboratories are widely used at the present time. There has been considerable recent interest in developing computer systems modeled after the human clinical expert. Such systems are knowledge-based and utilize the technology of artificial intelligence. Examples include systems modeled after the human clinical expert in rheumatology,[1] hematology,[2] infectious disease[3] and pulmonary disease.[4]

This article provides a progress report on Artificial Intelligence/Coagulation (AI/COAG), a knowledge-based system modeled after a human hemostasis expert. It should be emphasized that computers are not substitutes for physicians, although they may provide useful assistance to the latter.

Description of the System

Human experts in diseases of hemostasis are not numerous and are geographically restricted to large referral centers. Clinical hemostasis problems are not particularly numerous, but they are commonly serious and require urgent expert attention. The small civilian or military hospital will usually have to seek expert consultation by telephone. Human hemostasis experts are frequently unavailable for immediate telephone consultation due to travel or academic obligations. For this reason, a computer system modeled after the human expert might provide more rapid initial consultation than the distant specialist. Furthermore, a knowledge-based computer system would have many educational uses in the instruction of medical students, resident physicians, hematology fellows and other allied health personnel.

The director of a coagulation laboratory is consulted most commonly in the following areas:

1. Interpretation of coagulation screening tests and selection of appropriate specific assays and platelet function tests
2. Interpretation of clinical history
3. Prediction of the type of hemostasis to be expected at surgery
4. Suggestions for management of patients

AI/COAG is a knowledge-based system modeled after the human hemostasis expert. It is implemented on a DEC LSI-11 microcomputer. A program has been written that enables the system to report, analyze, and interpret the results of six coagulation screening tests. An additional program presently under development allows the system to interpret the details of a clinical hemostasis history. The system is intended to serve an educational role for students and physicians and, eventually, to perform as a surrogate for the human hemostasis expert in small hospitals.

The authors are from the Department of Pathology and Information Science Group, University of Missouri School of Medicine.

with known disorders of hemostasis
5. Literature references for the hemostasis discipline

In accordance with this experience, we initially constructed a capability for AI/COAG to interpret six laboratory coagulation screening tests and evaluate a clinical hemostasis history. At present, AI/COAG is implemented on a DEC LSI-11 microcomputer system. The physician or student who wishes to use the program does so by question-and-answer keyboard interaction.

LABORATORY TEST REPORTING

The six coagulation screening tests include the platelet count (PLTS) Mielke-template bleeding time (BT), prothrombin time (PT), activated partial thromboplastin time (APTT), thrombin time (TT) and urea clot solubility test (US). The quantitative platelet count indicates platelet number, but it says nothing regarding the platelet functional state. The BT is an efficient screening test for assessing platelet and capillary wall function. The PT monitors the extrinsic coagulation system while the APTT monitors the intrinsic coagulation system. The TT monitors the two-step phase in which thrombin converts fibrinogen to fibrin monomer (first) and fibrin monomer polymerizes to visible fibrin polymer (second). The US screens for homozygous factor XIII deficiency. Factor XIII cross-links fibrin polymer, converting the latter into a clot that provides adequate hemostasis. Since a plasma factor XIII level above 1% to 2% of normal allows normal hemostasis, only homozygously deficient individuals manifest bleeding symptoms.

The system views the results of these six tests as a pattern in which the tests always appear in the same order and are assigned the numbers of 1, 2 or 3, depending on whether the test result is decreased, normal or increased, respectively. Thus, a normal result for the six tests would be expressed as 222222. If the APTT were prolonged and the other tests were normal, the result would be expressed as 222322. The number of possible patterns would be 3^6 or 729, of which 324 are medically plausible.

When the results of these six tests are entered into the system by keyboard interaction, AI/COAG will display the results on the screen and will be followed by an analysis and interpretation of the results. An example is shown in Fig. 1 where the test results on a patient are compared with normal results for the particular test. The results are all abnormal except for a normal US.

```
          University of Missouri Medical Menter
Full Coagulation Screen Analysis
Patient Name: Jane Doe      ID: 123-45-6787    Ward: 5E
Findings
  Platelet count (PLTS): 42,000/μl (normal: 150,000-
    400,000/μl)
  Bleeding time (BT): 12 min (normal: 3-10 min)
  Prothrombin time (PT): 15.6 sec (normal: 9.6-12.0 sec)
  Activated partial thromboplastin time (APTT): 47.3 sec
    (normal: 25-38 sec)
  Thrombin time (TT): 23.4 sec (normal: 12.0-19.0 sec)
  Urea solubility test (US): clot persisted
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Fig. 1 Summary section of a computerized Coagulation Laboratory Report

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Analysis:
  The platelet count is reduced. The bleeding time,
  prothrombin time, activated partial thromboplastin time,
  and thrombin time are prolonged. The urea solubility test
  is normal.
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Fig. 2 Analysis section for the report in Fig. 1.

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Interpretation:
  The most likely explanation for this combination of test
  results is disseminated intravascular coagulation (DIC).
  The platelet count is usually not reduced below 20,000/μl
  in uncomplicated DIC. Exceptions do occur, and platelet
  counts below 10,000/μl may be seen.
  The most likely reason for the prolonged bleeding time is
  the reduced platelet count, though other explanations
  (aspirin ingestion, congenital or acquired platelet malfunc-
  tion) cannot be excluded.
  In DIC, there are plausible explanations for the other
  abnormalities: PT prolongation (TMM45), APTT pro-
  longation (TMM46), TT prolongation (TMM47), and factor
  XIII derangement (TMM48).
  The presence of heparin in the patient may affect the
  evaluation of the screening tests in DIC (TMM49).
End of report.
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Fig. 3 Interpretation section for the report in Fig. 1.

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TMM45
//Cited by: A108,M44.
The prothrombin time is prolonged because of a variable
combination of reduced plasma fibrinogen (<80-100 mg/dl),
reduced factor V, and fibrinogen-fibrin degradation prod-
ucts. In severe examples of DIC, factor X may also be re-
duced (TMR46).
ENDTMM
```

Fig. 4 "Tell-Me-More" Number 45.

An analysis of the results is given in Fig. 2 and followed by an interpretation of the tests in Fig. 3.

Although there may well be other explanations for the test results shown in Fig. 1, the most common one would be DIC, as explained in Fig. 3. The interpretation refers to several other information sources designated at TMM (Tell Me More). TMMs are devices intended to supply additional information upon request. An example of a TMM is shown in Fig. 4. TMMs may stand alone within an interpretative statement or be embedded within other TMMs. Literature citations may be requested as TMR (Tell Me Reference) items. An example is shown in Fig. 5. TMMs and TMRs are useful as an educational component since they appear on request by users of varying medical sophistication (students, house staff, physicians). Furthermore, they allow the clinician to follow the logic of the system.

The majority of patients referred to a Coagulation Laboratory are eventually shown to have normal hemostatic systems. In these cases, all their coagulation screening test results are normal. On the other hand, some clinically significant coagulation disorders, such as mild hemophilia, may present with a positive history for bleeding but normal coagulation screening tests. In this case, the diagnosis would be suspected from the clinical history and confirmed by specific assays for factors VIII or IX. AI/COAG deals with these diverse possibilities as shown in Fig. 6. The system then is prepared to evaluate the clinical history if such a request is made.

The Clinical History

The patient suspected of having a hemostatic disorder should ideally be evaluated initially by both a clinical history and the six coagulation screening tests. The clinician may use AI/COAG for an evaluation of either history or screening tests or both. This is appropriate since the condition of some patients whose physicians use the coagulation laboratory will already have been diagnosed. Examples would be patients taking oral anticoagulants or the hemophiliac being reexamined for the possible development of an antibody against factor VIII.

A series of questions has been written for which the physician's responses characterize his patient's hemostatic system. A conclusion that the patient has a negative history may be reached after interacting with ten frames (computer screen) of questions. To deal with a positive history, one may need to interact with 15 to 25

TMR46

1. Colman, R. W., Robboy, J. J. and Minna, J. D.: "Disseminated intravascular coagulation: a reappraisal." Annual Review of Medicine, 30(1979):359-374. DN 11496-1.
2. Gaston, L. W.: "Component use in treatment of disseminated intravascular coagulation." In Silver, H. (ed.): Blood, Blood Components and Derivatives in Transfusion Therapy. Washington, D. C.: American Association of Blood Banks, 1980:211-226. DN 11490-1
3. Bell, W. R.: "Disseminated intravascular coagulation." Johns Hopkins Medical Journal, 146(1980):289-99. DN 11497-9.

ENDTMR

Fig. 5 "Tell-Me-Reference" Number 46.

Interpretation:

The above analysis is compatible with the interpretation that the patient is a normal individual, provided there has been no clinical evidence of abnormal bleeding.

End of report.

Fig. 6 Interpretive statement when all screening tests are normal.

Has the patient exhibited any of the following conditions?

1. Abnormal bleeding on obstetrical delivery
2. Abnormal bleeding on dental extraction
3. Bleeding into throat or floor of mouth secondary to dental anesthesia or sutures
4. Abnormal bleeding on tonsillectomy
5. Abnormal bleeding on other surgical procedure
6. None of the above.

Respond (1, 2, etc.): 2

Fig. 7 Example of interactive patient hemostasis history.

(Example of expansion given positive response to item 2, abnormal bleeding on dental extraction)

Which statements describe the bleeding on dental extraction?

1. Blood-stained saliva up to one day post extraction
2. Recurrent oral clots > 6 hrs post extraction
3. Recurrent oral clots > 24 hrs post extraction
4. Extracted tooth was deciduous
5. Extracted tooth was impacted molar
6. Details not available
7. None of the above

Respond (1, 2, etc.): 2, 5

Fig. 8 Example of expanded interactive patient hemostasis history.

frames of questions.

The questions are weighted in such a way that a positive answer assigns a point score ranging from one to ten. The scores for the entire questionnaire are totaled and the combined score allows diagnoses of a possible, probable or definite hemostatic disorder or a normal hemostatic system.

An example of a portion of the questionnaire is shown in Fig. 7. Since these questions are exploratory and provide an introduction to further questions, a positive response is given a score of zero and the physician is referred to an expanded menu of questions as shown in Fig. 8. Not shown is a score of minus one (−01) that is given for removal of an impacted molar if only blood-stained saliva was noted following extraction. This score was awarded since removal of an impacted molar is in itself a significant test of hemostasis.

Results of Preliminary Field Testing

The portion of the program dealing with laboratory tests has been used to evaluate data from 315 cases. Forty-one patterns of laboratory results were seen with 18 patterns comprising 90% of the cases.[5] Forty-six of the cases were suspected of having a hemostatic defect and were studied at an outside laboratory. AI/COAG appropriately concluded that there was a defect of hemostasis that required study in 76% of these cases relying only on laboratory data.[5]

The clinical history portion of the program was used to evaluate the history of 51 known bleeders attending this medical center. Of the 44 cases of hemophilia A or B, a definite diagnosis of a hemostatic defect based on a score of +10 or more was made in 40 patients. A score of +5-+9 and a diagnosis of a probable hemostatic defect was made for three additional patients. It should be noted that the program concludes from history alone only that a defect is present. It does not attempt to make a specific diagnosis until laboratory test results have been provided.

We consider the screening laboratory test portion of the program to be completed. The clinical history aspect of the system is in an early phase of development. We are currently evaluating the responses of apparently normal medical students and other allied health students to the clinical history questionnaire in an attempt to refine the phrasing of the questions and their interpretation so as to minimize false positive responses.

Future Plans

Additional sections dealing with specific coagulation tests must be added to the existing laboratory test evaluation aspect of the system. Examples will include the clotting factor assays (functional and immunologic) and the platelet function tests.

Appropriate linkages between the laboratory test and clinical history portions of the program need to be added. Major sections must be written for the management of oral anticoagulant therapy, the diagnosis of specific disorders (hemophilia, von Willebrand's disease, disseminated intravascular coagulation, platelet functional defects), consultation prior to surgery, and transfusion service consultation.

Finally, extensive field testing must be completed before the system can be considered ready for export to other centers.

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> Every man has a right to be conceited until he is successful.
>
> —Benjamin Franklin

MARK A. SINNING, M.D., WILLIAM G. WOOD, M.D.,
KENT A. HUSTON, M.D., KENDRICK C. DAVIDSON, M.D.
and JOSEPH A. PINKERTON, JR., M.D., *Kansas City*

Giant Cell Arteritis With Peripheral Vascular Compromise

Case Reports

Giant cell arteritis is an idiopathic inflammatory process of large- and medium-sized arteries afflicting elderly persons. Untreated, it can lead to blindness, aortic dissection and rupture. Arteriography is helpful in determining the location and extent of large vessel disease. The standard therapy is with corticosteriods. However, an arterial bypass procedure may be necessary when symptoms are disabling and not responsive to corticosteroids. Two case reports are cited.

The authors are from the Departments of Surgery, Pathology, Internal Medicine and Radiology at St. Luke's Hospital and St. Luke's Foundation for Medical Education and Research.

Giant cell arteritis (temporal or cranial arteritis) is an idiopathic inflammatory process of large- and medium-sized arteries which afflicts elderly persons. Some authors believe that polymyalgia rheumatica is a clinical manifestation of giant cell arteritis rather than a distinct entity. However, this remains controversial.[1, 2] The typical patient is over age 60, white, with low-grade fever, malaise, proximal myalgias, headache, anorexia and weight loss. There are symptoms referable to the affected arteries. The erythrocyte sedimentation rate is nearly always elevated. Headache, jaw claudication and absent pulses of the temporal arteries with swelling and tenderness are common manifestations.

Blindness, usually due to ischemic optic neuritis, occurs in as many as 36% of the cases.[3] Though uncommon, inflammation of the large arteries and aorta can cause extremity claudication, aneurysm formation, aortic dissection and rupture.[4-6]

In patients with classic symptoms and an elevated erythrocyte sedimentation rate, giant cell arteritis is easily recognized. However, in some patients most of the usual symptoms may be absent. The syndrome may even be clinically silent[7] or occur in an atypical manner with arterial involvement producing limb claudication or an aortic arch syndrome.[8, 9] Giant cell arteritis may not be considered in the differential diagnosis because atherosclerosis is so common in this age group.

This article presents a review of a ten-year experience with giant cell arteritis with special emphasis on peripheral vascular involvement.

Material and Methods

The records of all patients at St. Luke's Hospital of Kansas City who had cranial arteritis, temporal arteritis and giant cell arteritis from 1970 through 1980 were reviewed. Patients were accepted in the study only if they had a positive arterial biopsy or had the classic manifestations of giant cell arteritis that included an elevated erythrocyte sedimentation rate and at least four of the following: tender, swollen temporal artery; jaw claudication; blindness; polymyalgia rheumatica; and response to corticosteroids. Polymyalgia rheumatica was diagnosed if there was marked aching and stiffness without other apparent cause in the neck, shoulder or hip girdle bilaterally.[10] The records were examined for evidence of peripheral vascular involvement manifested by upper or lower extremity claudication. Arteriograms, if performed, were reviewed as well as any arterial bypass procedures.

Results

A total of 18 cases of giant cell arteritis were identified over the ten-year period. All patients were white. They included 15 women (83%) and three men (17%) ranging from 58 to 80 years of

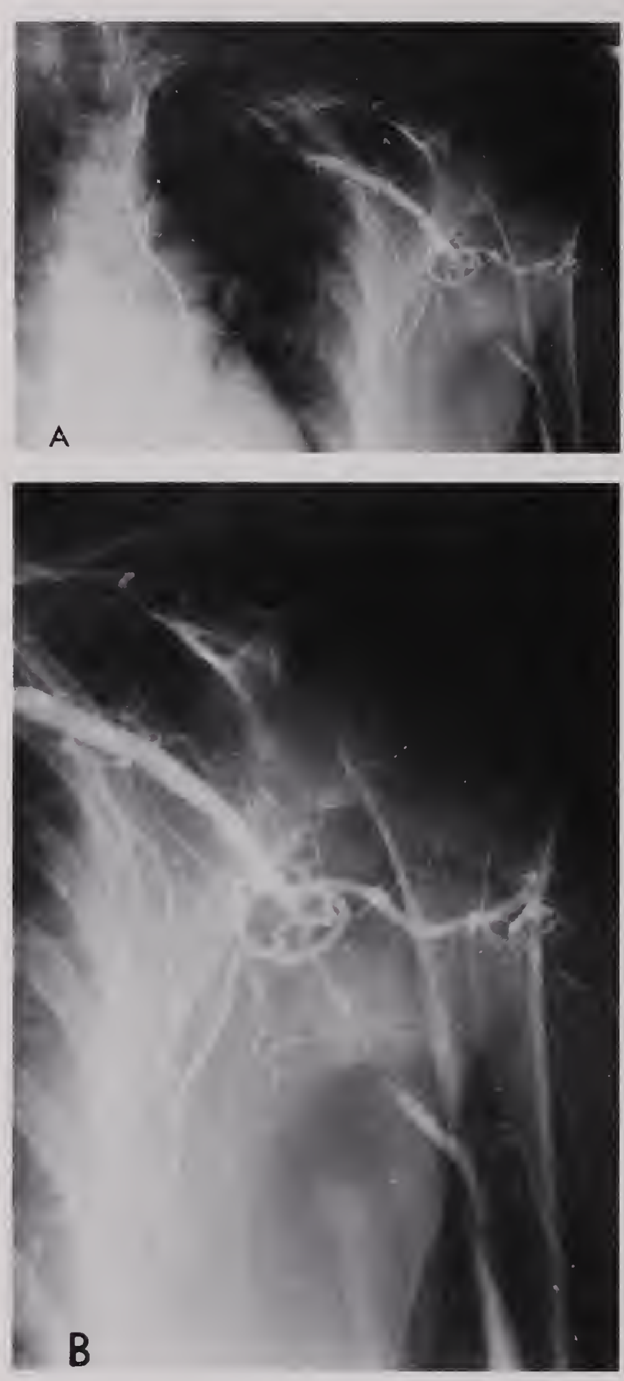

Fig. 1 *(A)* **Left subclavian arteriogram with runoff film shows mild irregularity of the distal subclavian artery and** *(B)* **a high grade stenosis involving the proximal brachial artery.**

age. The median age was 73 years. Sixteen patients (88%) had a positive temporal artery biopsy. The condition of one patient (6%) was diagnosed by peripheral artery biopsy and another patient (6%) satisfied the clinical criteria for giant cell arteritis without arterial biopsy. All patients had an elevated erythrocyte sedimentation rate while 11 (61%) had unexplained anemia. Four patients (22%) had a temperature higher than 100F. Thirteen patients (72%) had headache but only ten (55%) had a tender, swollen temporal artery. One patient (6%) was totally blind while five (28%) were blind in one eye. Three patients (17%) had blurred vision and one (6%) had diplopia. Five patients (28%) had jaw claudication and seven (39%) were considered to have polymyalgia rheumatica. All 18 patients showed improvement with corticosteroids. Two patients (12%) had extremity claudication. One patient had unilateral arm claudication and one had bilateral arm claudication. None had lower extremity claudication. Both patients (12%) with arm claudication had arteriography and one (6%) underwent an arterial bypass procedure. These two patients are the subjects of the following case reports.

CASE REPORTS

Case #1 A 75-year-old white woman complained of episodic pain of ten days' duration in her left hand. The pain was knife-like in character and was brought on by activity of the left hand and arm. It lasted several minutes before resolving after rest and massage. She denied a past history of similar symptoms, headaches or visual disturbances.

Her left hand felt cool and was pale in comparison to her right hand. Blood pressure was 210/100 mm Hg in the right arm but was only palpable at 70 mm Hg in the left arm. Carotid and lower extremity pulses were strong bilaterally and without bruit. Brachial and radial pulses were strong in the right arm but only faintly palpable in the left arm. Results of physical examination otherwise showed no abnormalities.

Laboratory testing showed the following values: hemoglobin, 12.2 gm/100 ml; hematocrit, 38%; and white blood cell count, 9,400 cells/mm^3 with a normal differential. Prothrombin time, partial thromboplastin time and platelet count were normal. The plasma fibrinogen value was 570 mg/100 ml (normal range 146-390 mg/100 ml). The erythrocyte sedimentation rate was 55 mm/hr (Wintrobe) and corrected to 36 mm/hr (normal range 0-15 mm/hr). A urinalysis showed 6-10 rbc/hpf and 6-10 wbc/hpf but was otherwise normal. A chest x-ray and electrocardiogram were within normal limits.

An arch aortogram and selective left subclavian arteriogram with runoff films showed a high-grade stenosis involving the proximal left brachial artery and mild irregularity of the distal left subclavian artery (Fig. 1). The mid and distal brachial artery filled via collaterals and was patent throughout its course. A left axillary to brachial artery saphenous vein bypass was done. This restored strong pulses to the brachial and radial arteries. A biopsy specimen from the area of stenosis showed slight atherosclerosis and a dense infiltrate of lymphocytes, plasma cells and multinucleated giant cells (Fig. 2). The infiltrate was transmural in areas but appeared concentrated in the adventitia and outer media. The patient had an uneventful postoperative course and maintained a good pulse in her left arm. Sixty milligrams of prednisone was administered daily for three weeks and was then tapered off over a two-week period. At followup two months after the operation, the patient was feeling well with pulse and blood pressure equal in both arms. The uncorrected erythrocyte sedimentation rate at that time was 30 mm/hr.

Comment

This patient depicts an atypical presentation of giant cell arteritis with unilateral upper extremity ischemia without other systemic manifestations. Because of the absence of the typical symptoms, giant cell arteritis was not considered in the preoperative diagnosis and atherosclerosis was presumed to be the cause. Consequently, an arterial bypass procedure was performed. The diagnosis was established by arterial biopsy at the time of operation. In retrospect, the elevated erythrocyte sedimentation rate and fibrinogen level may have been a clue to the diagnosis. The patient was subsequently treated with systemic corticosteroids in order to prevent the possible complications of giant cell arteritis and to control the disease as reflected by the erythrocyte sedimentation rate rather than to improve her symptoms which were effectively treated with the operation.

Case #2 A 73-year-old white woman was seen because of a two-month history of bilateral arm pain brought on by arm movement. She described the pain as a dull ache located mostly in the forearms. This was relieved with rest. The patient denied headaches or visual problems. She did complain of anorexia and general malaise.

There was a faintly palpable pulse in the left arm but none in the right arm. The pulses were strong in both lower extremities. The blood pressure was 156/90 mm Hg in the right leg and was palpated at 60 mm Hg systolic in the left arm. Grip strength was moderately depressed in both hands. An epigastric bruit was also noted. Results of the remainder of the physical examination were normal.

Laboratory evaluation showed the following values: hemoglobin, 10.1 gm/100 ml; hematocrit, 32%; and white blood cell count, 6,300/cu mm a normal differential. Serum protein electrophoresis showed an albumin value of 3.3 gm/100 ml but was otherwise normal. Serum iron was 25 mcg/dl (normal range 50-150 mcg/dl) and iron binding capacity was 234 mcg/dl (normal range 250-400 mcg/dl). The erythrocyte sedimentation rate was 46 mm/hr (Wintrobe) which corrected to 26 mm/hr (normal range 0-15 mm/hr). The plasma fibrinogen was 415 mg/dl (normal range 146-390 mg/dl). Results of a urinalysis, a chest x-ray and an electrocardiogram were within normal limits.

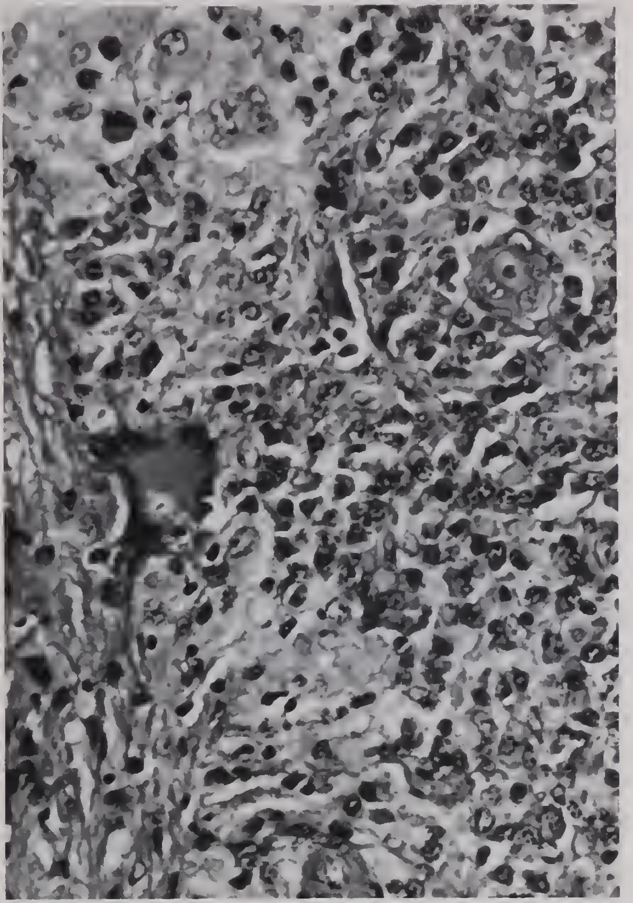

Fig. 2 Section of brachial artery shows dense infiltrate of lymphocytes and plasma cells with a multinucleated giant cell (hematoxylin-eosin x100).

An arch aortogram and bilateral selective subclavian arteriograms with runoff films showed a 50% stenosis of the proximal portion of the left subclavian artery with poststenotic dilatation (Fig. 3). There was complete occlusion of the right axillary artery with distal reconstruction via collaterals (Fig. 4). Giant cell arteritis was suspected and a temporal artery biopsy confirmed this diagnosis. Prednisone (60 mg daily) was given for one month and was gradually tapered to 15 mg per day over the following two months. The patient's symptoms slowly improved. After one month, a faint pulse was present in the right arm. After three months, the systolic blood pressure in the right arm was palpable at 70 mm Hg. The erythrocyte sedimentation rate was within normal limits.

Comment

This patient also depicts an atypical presentation of giant cell arteritis with bilateral upper extremity ischemia. Due to the patient's malaise, anorexia and elevated erythrocyte sedimentation rate, giant cell arteritis was suspected. Temporal artery biopsy results supported this impression. The patient was subsequently treated with system-

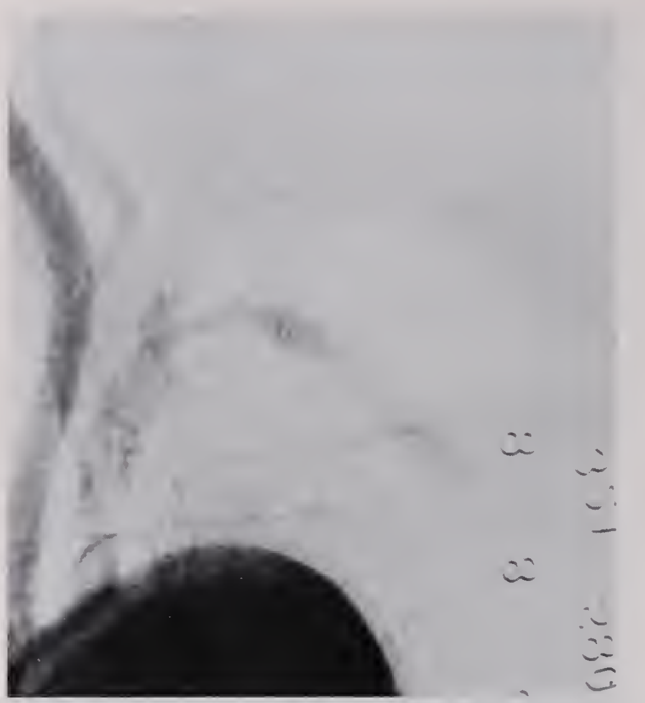

Fig. 3 Left subclavian arteriogram shows a high grade stenosis of the proximal portion of the left subclavian artery with poststenotic dilatation.

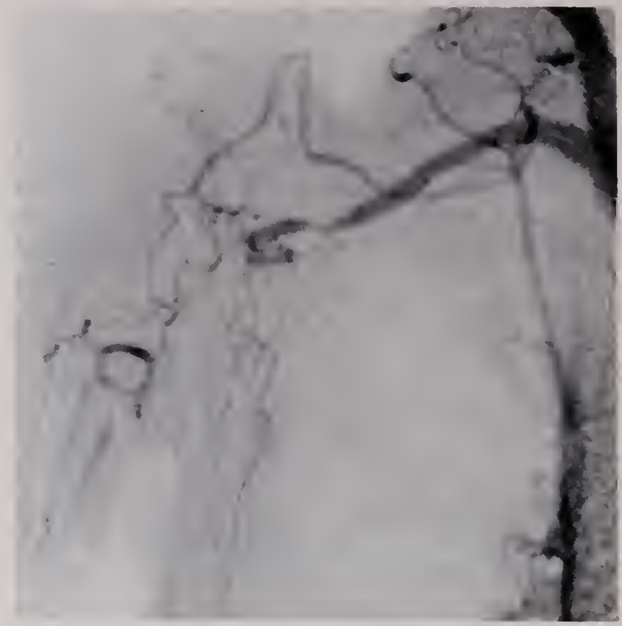

Fig. 4 Right subclavian arteriogram with runoff film shows complete occlusion of the axillary artery with distal reconstruction via collaterals.

ic corticosteroids in a therapeutic effort to prevent other complications of giant cell arteritis and control the disease as reflected by the erythrocyte sedimentation rate. Her symptoms persist although less severely and a pulse has returned to the right arm. This objective improvement with corticosteroid therapy also supports giant cell arteritis as the cause of the claudication. Her symptoms may totally disappear. If they do not continue to improve or if they become incapacitating in spite of steroid therapy, arterial bypass may be required for relief.

Discussion

Giant cell arteritis is not rare. According to Hauser *et al*[11] the incidence is 2.9 per 100,000 population. In a more recent study, Huston *et al*[10] found an incidence of 17.4 per 100,000 people over age 50.

Goodman,[3] in a review of five studies, found claudication in 8% of 196 patients with giant cell arteritis. The estimates, however, range from 3% to 43%. Hamrin *et al*,[12] in a study of 52 patients with temporal artery biopsy-proven giant cell arteritis, reported the following distribution of arterial bruits: carotid, 15; subclavian, 8; axillary, 27; brachial, 28; femoral, 15; and popliteal, 7. No attempt was made, however, to confirm giant cell arteritis as the cause of these bruits.

Klein *et al* reported clinical involvement of large vessels in 34 of 248 patients (14%) with giant cell arteritis. The original diagnosis was established by temporal artery biopsy. Although biopsy specimens were not obtained from the other peripheral arteries, large vessel involvement was believed to be present if any one of the following criteria were met: (1) onset of claudication and presence of a bruit over a large artery at a time of active temporal arteritis; (2) absent or diminished large artery pulse at a time of active temporal arteritis; (3) aortogram showing changes consistent with arteritis of aortic arch vessels; and (4) postmortem demonstration of aortic arch involvement with giant cells. Improvement while on steroid therapy was considered confirmatory of giant cell arteritis. Intermittent claudication was the most common symptom, occurring in nearly 75% of these patients. All but two of the 34 had diminished pulses or bruits. Although the number of patients is much smaller in the present study, the incidence of confirmed peripheral vascular involvement of 12% is comparable.

Aortic arch involvement has been shown to be much more common than previously believed. Ostberg[13] studied 889 consecutive autopsy cases in which two sections of aorta and a section of temporal artery were examined. Temporal arteritis, aortic involvement or both were found in 1.7% of the patients. When only one section of aorta was studied, 1.4% of 560 cases showed giant cell aortitis.

Angiography is helpful in determining the location and extent of large vessel disease in patients with giant cell arteritis. According to Klein *et al*,[6] arteriographic findings suggestive of giant cell arteritis include (1) long segments of smooth stenoses alternating with areas of normal or increased caliber; (2) smooth tapered occlusions of large arteries; (3) absence of irregular plaques and ulcerations; and (4) distribution of these changes in the subclavian, axillary and brachial arteries. Gillanders[14] and Thompson *et al*[15] reiterated these principles.

Arteriography, however, is not specific for giant cell arteritis. These angiographic changes can also be caused by atherosclerosis. In some cases, giant cell arteritis may not be suspected especially if other associated findings are absent. Indeed, the diagnosis may not be made until after a bypass procedure is performed and a biopsy of the involved vessel is done.

The standard therapy for giant cell arteritis is corticosteroids. This has also proved useful in cases with large vessel involvement. Hunder and Sheps[16] reported a patient who had narrowing of both iliac and superficial femoral arteries with complete occlusion of the left popliteal artery. A biopsy of the popliteal lesion confirmed the diagnosis of giant cell arteritis. After a course of corticosteroid therapy, an aortogram done seven months later demonstrated almost normal superficial femoral arteries. When complete occlusion is present, however,arterial bypass grafting may be necessary to relieve symptoms. Royster and DiRe[9] reported such a case in a woman with bilateral axillary artery occlusion due to giant cell arteritis proven by a biopsy. Bilateral subclavian to brachial artery bypass grafting with concomitant steroid treatment produced good results. Klein *et al*[6] observed that corticosteroid therapy alone fails to improve the pulse or blood pressure deficit in an extremity with an occluded vessel due to giant cell arteritis even when some subjective improvement may be noted.

The natural history of giant cell arteritis is unpredictable. After the initial symptoms, it can exist in a chronic form with gradual progression. Untreated, it may lead to blindness, myocardial infarction, cerebral vascular accident or gangrene of an extremity requiring amputation. Corticosteroids usually control this progression. Huston and Hunder[17] recommend initial therapy with 40 mg to 60 mg of prednisone daily for the first month. This can then be tapered to a dosage that controls symptoms and maintains a lowered erythrocyte sedimentation rate. There is no general agreement on duration of corticosteroid therapy. If the patient does well clinically and has a stable erythrocyte sedimentation rate, prolonged corticosteroid therapy is probably not necessary. Each patient's therapy, however, must be tailored to that individual's disease pattern.

Patients who are first seen with claudication, and any signs or symptoms of giant cell arteritis such as headache, unexplained fever, malaise, weight loss, myalgia or visual disturbance should be screened with an erythrocyte sedimentation rate. Arteriography may show smooth tapered stenoses suggestive of giant cell arteritis. If the erythrocyte sedimentation rate is elevated and giant cell arteritis is suspected, a temporal artery biopsy should be performed. If giant cell arteritis is found, a course of systemic corticosteroids is indicated to control the erythrocyte sedimentation rate, prevent the complications of giant cell arteritis and hopefully improve the claudication.

If the claudication is due to giant cell arteritis, some improvement is usually noted within four to six weeks.[6] If the claudication does not resolve, or if the symptoms become disabling in spite of steroid therapy, arterial bypass may be required. A biopsy of the arterial lesion should be performed at that time to determine the cause of vascular compromise. Patients with claudication, who have giant cell arteritis diagnosed after an arterial bypass procedure is performed, also require a course of corticosteroids to control the symptoms and prevent other complications of giant cell arteritis.

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RUSHDY ABADIR, M.D., GILBERT ROSS, JR., M.D.
and STEPHEN H. WEINSTEIN, M.D., *Columbia*

Brachytherapy and Teletherapy For Carcinoma of the Prostate

University of Missouri-Columbia Protocol

Carcinoma of the prostate constitutes 17% of cancers (other than skin cancer) in men resulting in 64,000 new patients and 21,000 deaths in 1979[1] in the United States. Unlike most adult malignancies for which incidence correlates to age in a normal bell-shaped distribution with the peak varying with the malignancy being described, the incidence of carcinoma of the prostate correlates to increasing age in a linear fashion. This suggests that among older aged patients, the incidence of carcinoma of the prostate is higher. Cancer of the prostate has a long natural history, and the five-year survival rate adjusted for normal life expectancy was found to be 70% for localized cancer and 35% for advanced cancer.[1]

The University of Missouri-Columbia protocol for localized carcinoma of the prostate calls for pelvic lymph node dissection, I^{125} seed implantation to the prostate, and supervoltage pelvic irradiation. Of fifty-five patients who were studied, one (1.8%) patient's failure was only local. Four other patients (7%) had distant metastases; one of these had supraclavicular nodes and local failure. The success rate, indicating control of disease, was 50 of 55 (91%). More prolonged observation is needed for more meaningful evaluation. The incidence of a second malignancy was 7% (4/55). At the present time, UMC protocol is considered satisfactory and continues to accrue cases. Future studies include consideration of chemotherapy for patients with a poor prognosis.

Dr. Abadir is Professor and Chief, Department of Radiation and Oncology; Dr. Ross is Professor and Chief and Dr. Weinstein is Assistant Professor, Department of Urology, University of Missouri School of Medicine.

Radiotherapy

Radiotherapy has gradually assumed a more prominent role in the curative treatment of localized cancer of the prostate in most medical centers. This started in the late 1960s and early 70s, first with external radiotherapy (teletherapy) and then with radioactive iodine seed (I^{125}) implantation (brachytherapy). The first serious attempt at brachytherapy was in 1951 by Flocks[2] who used radioactive gold. Radioactive iodine seed (I^{125}) has since replaced radioactive colloid gold in most medical centers because it provides better distribution of the isotope in the prostate and is less hazardous to personnel.

University of Missouri-Columbia (UMC) Protocol

A protocol was introduced at UMC in 1976. The eligible patients for this protocol are those with localized carcinoma of the prostate, $T_{1,\ 2}$, or $_3M_0$. This protocol called for pelvic node dissection, I^{125} seed implantation and, four to six weeks later, Co^{60} therapy.[3] The rationale for this protocol is the same as that for radium (brachytherapy) and supervoltage therapy (teletherapy) for cancer of the cervix, the success of which has passed the test of time. Such treatment would deliver a maximum cancericidal dose to the maximum disease at the primary tumor site and a minimal cancericidal dose to the minimal disease in the pelvic node area.

Materials

The exclusions from this analysis include patients with less than one year follow-up and those who did not have external beam therapy. Within the latter group were two deaths (one operative and one suicide), four refusals of patients with external therapy who were given radical doses of I^{125}, and one patient who did not keep his appointment for planned cobalt therapy. We also

TABLE I
ANALYSIS OF THE FAILURE OF FIVE OF 57 PATIENTS

Serial No.	Differentiation	Stage	Positive Nodes/ Total Nodes Removed	Site of Failure	Remarks
1.	PD	T_3	13/16	Supraclavicular nodes	
2.	MD	T_3	1/19	Bone metastasis	Died
3.	MD	T_3	1/16	Local recurrence	Black man
4.	MD	T_2	0/24	Brain, lung metastases	Died. Suspected primary lung cancer
5.	PD	T_3	unresectable	Bone metastasis	

PD = Poorly Differentiated
MD = Moderately Differentiated

excluded a treated patient who had minimal bone metastasis when first seen. We are now reporting on 55 patients who had combined brachytherapy and teletherapy with a one- to five-year follow-up.

The staging system was that of the American Joint Committee for Staging and End Results Reporting,[4] as follows:

- T_1 Intracapsular tumor surrounded by normal gland.
- T_2 Intraglandular tumor with deformation and invasion of capsule, lateral sulci and seminal vesicles not involved.
- T_3 Tumor extends beyond capsule with or without involvement of lateral sulci and/or seminal vesicles.
- T_4 Tumor fixed or involves contiguous structures.

RESULTS

The ages varied between 50 and 74 years. All the patients treated were T_2 or T_3, with 37 (67%) T_2 and 18 (33%) T_3.

Twenty-six patients or 47% had well-differentiated (WD) tumors, 18 patients or 33% had moderately-differentiated (MD) tumors and 11 patients or 20% had poorly differentiated (PD) tumors. Acid phosphatase was elevated in only two patients, PD T_3 cancer in one and MD T_2 cancer in the other. Both had controlled disease in the follow-up.

The pelvic lymph nodes were negative for cancer in 39 (71%) and positive in 16 (29%).

Success was defined as no evidence of progressive disease during the period of observation and was seen in 50 of 55 or 91% of the patients. Failure was defined as evidence of progressive disease and involved five (9%) patients. One patient (1.8%) failed only locally. He was a black man with a T_3 lesion and positive nodes. Another patient developed supraclavicular nodal involvement and showed local failure, also. Three patients developed distant metastases in bone, brain or a lung. Table 1 presents a summary of the findings in the failure group.

Associated cancer was found in four (7%) patients of the group. Two patients had cancers prior to the prostatic cancer; one in the bladder and the other in both the bladder and colon. Two patients developed cancers after the prostatic cancer was treated; one in the lung and the other in the rectum. A summary of the findings in these patients is shown in Table 2.

DISCUSSION

This report is a further follow-up of the results of our protocol that was published in 1978.[3] With one patient whose failure was only local (1.8%) and another with local failure associated with failure in lymphatic system, the effectiveness of this protocol in the control of local disease is obvious. However optimistic we may be about these initial

TABLE 2
ASSOCIATED CANCER

Serial No.	Ca of Prostate	Other Cancer	Before or After Prostate Therapy
1.	WD — T_2 — negative nodes controlled	Bladder	Before
2.	WD — T_2 — negative nodes controlled	Rectum	After
3.	WD — T_2 — negative nodes controlled	Bladder and Colon	Before
4.	WD — T_2 — negative nodes controlled	Lung	After

observations, a measure of caution is required because of the need for a longer period of observation. It is interesting that the single patient whose failure was only local was a black man. Zarkoob[5] reported on the poorer prognosis of prostatic cancer in black men. In the single patient who failed in supraclavicular nodes (as well as locally), 13 of his 16 excised pelvic nodes were positive for tumor. The routine irradiation of the para-aortic lymph nodes in cancer of the prostate or, even, in those patients with positive pelvic lymph nodes seems unjustified at the present time. We feel that para-aortic irradiation may not have prevented the single incidence of supraclavicular lymph node involvement.

The incidence of a second malignancy in this group of patients is high (4/55 or 7%). This could be explained by the patient's relatively older age associated with cancer of the prostate generally.

The treatment protocol was well tolerated by those patients who completed their Co^{60} therapy following pelvic node dissection and I^{125} seed implantation. The incidence of impotency was considerably less than that after surgery. The protocol continues to accrue cases actively. Future studies include the consideration of chemotherapy for patients with a poor prognosis, i.e., T_3 poorly differentiated cancer with positive lymph nodes.

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Reprints: Rushdy Abadir, M.D.
Chief, Dept. of Radiation and Oncology
University of Missouri
U4 Hospitals & Clinics
Columbia, MO 65212

Giant Cell Arteritis

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Reprints: Mark A. Sinning, M.D.
St. Luke's Hospital
Wornall Road at 44th
Kansas City, MO 64111

The American College of Nuclear Physicians (ACNP) has established a Public Education Program and is providing speakers — without charge — to address the subject of Nuclear Medicine and its surrounding nuclear waste issues. According to the federal Low-Level Waste Policy Act of 1980, each state must pass legislation to either enter into a regional compact or establish its own disposal facility, by 1986, or it may may have to stop the practice of Nuclear Medicine. If the waste management problems are not solved, the benefits of Nuclear Medicine could be lost. The ACNP believes it critical to educate the public on the practice of Nuclear Medicine and the low-level issues. Doctors and scientists, who practice in hospitals and universities across the country, want to address misconceptions about Nuclear Medicine, the use of radioactive materials and the disposal of low-level waste. Any physician interested in the problem can write to the American College of Nuclear Physicians, Suite 700, 1101 Connecticut Ave., N.W., Washington, D.C. 20036 or call (202) 857-1191.

DAVID R. RUSH, PHARM.D. *and*
STEPHEN HAMBURGER, M.D., *Kansas City*

Hypoglycemia

EXTREME DOWNWARD DEFLECTIONS in plasma (or blood) glucose concentrations often warrant critical care intervention. The hypoglycemia diagnosis in the acute care situation is easily made when the blood glucose level is distinctively low. Overall, however, hypoglycemia is a clinical problem that can be most difficult to diagnose because it is not a disease but an indication of derangement of glucose homeostasis. An awareness of hypoglycemia as a wide spectrum of signs and symptoms and the establishment of the diagnosis by documentation of a low blood glucose level associated with symptoms relieved by glucose administration are necessary in defining the diagnosis of spontaneous hypoglycemia.

A major area of dispute in hypoglycemia has been the definition of the lower limits of a "normal" blood glucose level. Hypoglycemia in adults has been defined rather arbitrarily as occurring when the plasma glucose level falls below 50 mg/dl (true whole blood glucose below 40 mg/dl).[1] When such a reduction is accompanied by symptoms and signs of adrenergic hyperactivity or nervous system depression or a combination of both, clinical as well as chemical hypoglycemia is manifest.

Much of the earlier literature that attempts to define hypoglycemia at a specific circulating glucose level is confusing since often there was no differentiation between blood glucose and serum glucose. Blood glucose levels are generally 7 mg/dl to 9 mg/dl lower than serum levels because of the volume dilution effect of red blood cells. The defining of an arbitrary cut off blood glucose level to represent hypoglycemia has been complicated by both the inexact defining of measurements by investigators and the not uncommon finding that blood glucose levels below 50 mg/dl are not always accompanied by clinical symptoms. Recent data has also shown that normal women in a 72-hour fasting state may have plasma glucose levels 10 mg/dl lower than their male counterparts.[2, 3]

One author has claimed that as many as 48% of the normal population subjected to an oral glucose tolerance test (OGTT) have blood glucose levels that fall below 50 mg/dl between the second to fifth hour of the test but exhibit no symptoms.[4] Another report found that 35% of normal subjects have plasma glucose levels below 55 mg/dl without symptomatology of hypoglycemia.[5] A more realistic report, however, projected that plasma glucose levels below 50 mg/dl occur in less than 10% of the population and are usually associated with symptoms of hypoglycemia.[6]

Certainly, these figures are confusing in defining the allowable lower limits of blood glucose. The conditions preceding these tests certainly can affect the conclusions. In these and other studies, conditions preceding the tests vary from an overnight fast or prolonged fast to simply looking at the low figure of reactive glucose.[5-7]

Despite all these inconsistencies of findings and definitions, some practical operative guidelines are necessary. The following five general guidelines are offered for the diagnosis of hypoglycemia:

1. In adult men and women, a random blood sample drawn in association with hypoglycemic signs and symptoms, a plasma glucose level below 50 mg/dl (blood glucose level less than 40)
2. In adult men and women after an overnight fast, a plasma glucose level below 60 mg/dl (blood glucose level less than 52)
3. In adult men fasted for 72 hours, a plasma glucose level below 55 mg/dl (blood glucose level less than 47)
4. In adult women fasted for 72 hours, a plasma glucose level less than 45 mg/dl (blood glucose level less than 40)
5. In adult men and women given a 100-Gm oral glucose load, lowest plasma glucose level less than 55 mg/dl (blood glucose less than 47)

Before classifying the hypoglycemic disorders, it is important to understand the basic physiologic considerations that make this disorder so important to recognize, classify and treat. The brain is so uniquely vulnerable to acute depletion of circulating glucose that failure to recognize the clinical condition may result in irreversible damage

Hypoglycemia is a clinical problem that can be most difficult to diagnose because it is not a disease but an indication of derangement of glucose homeostasis. A major area of dispute has been defining the lower limits of a "normal" blood glucose level. Considering the inconsistencies of findings and definitions, the authors offer general guidelines for the diagnosis of hypoglycemia. They also discuss the condition in detail.

Dr. Rush is Associate Professor of Medicine and Clinical Pharmacy, University of Missouri-Kansas City School of Medicine ahd Pharmacy and from the Department of Community and Family Medicine, Truman Medical Center-East. Dr. Hamburger is Chairman, Department of Medicine, at the School of Medicine.

to neural cells that may lead to permanent impairment of mental function, personality and motor and sensory nerve functions.

The brain's most important substrate for energy metabolism is glucose. Under normal conditions, 90% of the oxidative metabolism is sustained by combustion of glucose. The brain is dependent on a constant supply of glucose from the blood circulation since the brain's carbohydrate deposits can compensate for only a few minutes of utilization. The transportation of glucose from the blood to the nerve and glial cell metabolic apparatus of the brain involves a number of steps that include transport through the blood brain barrier, diffusion through the extracellular space of the brain, transport through nerve and glial cell membranes and, to a lesser degree, transport over the choroid plexus. Detailing the mechanisms of glucose transport further is beyond the scope of this article, but it has been recently reviewed by Lund-Andersen.[8]

Whether the action of insulin on brain glucose metabolism plays any role under physiological conditions is unclear at present. Despite the fact that insulin plays a major role in the regulation of glucose transport and metabolism in the human body, the hormone appears to have no direct effect on the transport mechanisms for glucose across the blood-brain barrier.[9] Neither is the transport from cerebrospinal fluid to the surrounding tissue affected by changes in insulin concentration. While our present knowledge indicates insulin has no direct action on the involved glucose transport mechanisms from blood to brain, it is necessary to still be aware that by means of its influence on glucose metabolism, the net transport of glucose from blood to the brain certainly can be affected by insulin.

Phosphorylation is the first metabolic step in which glucose is converted into glucose-6-phosphate. Under normal conditions, the transport rate of glucose across the blood brain barrier, going from blood to brain, is two to three times greater than the phosphorylation rate. Thus, the major regulatory factor on glucose metabolism is not the transport rate of glucose across the blood-brain barrier, but is the degree of metabolic activity initiated by the hexokinase reaction. The rate of phosphorylation is greatly stimulated when the plasma glucose concentration is below 40 mg/dl or anoxic conditions exist. Cerebral glucose concentrations can rapidly approach zero.[10, 11]

Clinically, it is well-accepted that not only the plasma glucose concentration itself, but also the rate of glucose change is involved in the degree of severity of the hypoglycemic syndrome.[12] This fact alone helps indicate that factors other than the transport across the blood-brain barrier can be implicated in hypoglycemic pathophysiology.

Glucose oxidation generally parallels cerebral oxygen intake. However, anoxia cannot be tolerated by the brain for more than a few minutes whereas glucose deprivation of the brain is associated with longer survival. This probably is due to the nervous tissues' presumed ability of metabolizing additional substrates derived from glycogen, amino acids, ketoacids and protein.

Depending upon the duration and degree of glucopenia, recovery after glucose administration may be immediate or prolonged over days. Unless glucose levels have been continuously low and result in cell death, restoration to euglycemia usually reverses the signs and symptoms of hypoglycemia. With protracted hypoglycemia, neurologic dysfunction can progress to coma and eventually death as the medullary centers controlling cardiorespiratory function fail. The brain shows patchy ischemic necrosis of the cerebral cortex, basal ganglia, hippocampus and vasomotor centers in death due to hypoglycemia. Acutely, there are scattered areas of petechiae, congestion and nerve swelling that lead to the ultimate loss of cells and demyelination.

There are three major pathways through which the brain obtains glucose. Glucose homeostasis in the fed state is due primarily to glucose absorbed from the intestinal tract. The complex carbohydrates that generally comprise 50% of the typical western world diet are hydrolyzed to simple monosaccharides within the lumen of the gut and the intestinal brush border. Glucose (80%) is the major component of this breakdown along with fructose (15%) and galactose (5%). The glucose and galactose are actively transported to blood via a carrier-mediated system of the intestinal cells and provide the most direct potential substrate for the brain.

The other two major pathways are the utilization of hepatic (and renal to a much lesser degree) glycogen and the catabolization of proteins and amino acids to glucose. These two pathways are utilized to maintain glucose homeostasis primarily in the postabsorptive phase of a meal (four to six hours after eating) or during more prolonged fasting.

The liver, which is freely permeable to glucose and does not require insulin for glucose transport, takes up approximately 50% of the splanchnic glucose load. This is then phosphorylated via glucokinase and is under insulin control. Most of the assimilated carbohydrate is converted to glycogen via glycogen synthase and other enzymatic pathways regulated by insulin. Thus, in the presence of insulin, the liver is a most important depot for the storage of glucose. That sugar that is not taken up by the liver is eventually distributed within the extracellular space. The transient hyperglycemia postfeeding stimulates further insulin release and a portion of the extracellular glucose is translocated into muscle and fat. During fasting between meals or under stress situations, however, hepatic glycogen is the primary substrate for maintaining circulating glucose concentrations. Prolonged fasting will deplete hepatic glycogen stores and the normal 25% contribution of gluconeogenesis to keeping glucose levels up may of necessity approach 100%.

Hepatic glycogen content is normally 80 gm to 100 gm.[13] While an additional 400 gm of glycogen is stored in the muscle, only the liver portion can be rapidly converted to free glucose. The hepatic glycogen reserves can be diminished within 24 to 48 hours during fasting to only a 10 gm reserve for acute stresses. Thus, while hepatic glycogen provides 75% of the substrate for net glucose balance in the postabsorptive phase of a meal (four to six hours after eating), a more prolonged fast requires that a greater percentage of the glucose pool be replenished by de novo synthesis of glucose from other fuels or precursors other than hepatic glycogen.

The nervous system, mainly the brain, requires about 100 mg of glucose per minute to insure proper functioning of the central nervous system.[14] This amounts to 6 gms per hour or about 144 gms per day for the brain alone. This amount exceeds the total glycogen stored in the liver at any one time. As outlined above, hepatic glycogen stores are maintained during fasting by gluconeogenesis as "new" glucose is made available by the conversion of amino acids from protein or from incompletely oxidized substrates, such as lactic acid. Thus, to prevent the development of hypoglycemia, it can be seen that all three pathways for providing circulating glucose to the brain are very important.

In recent years, hypoglycemia has been popularized by the lay press as the basis for a diversity of human ailments. Hypoglycemia has been characterized as a nondisease of epidemic proportions.[15] Because of the unwarranted proliferation of the hypoglycemia diagnosis, the American Diabetes Association, American Medical Association and the Endocrine Society jointly published a "Statement on Hypoglycemia" that cautioned against attributing a number of unrelated diseases to hypoglycemia.[16] Several studies have considered the link between depression, anxiety, hypochondriacal and hysterical personality features, and the hypoglycemia diagnosis.[17-19] It appears that many patients with symptoms of hypoglycemia also have emotional disturbances. However, there is no support for a cause-and-effect relation between the two conditions.[19]

A number of classification systems have been proposed for hypoglycemia based on physiologic mechanisms, mode of clinical presentation or the organic systems involved.[1, 3, 20, 21] The most common physiologic approach is to characterize the hypoglycemia as either fasting (spontaneous) hypoglycemia, posprandial (postabsorptive reactive) hypoglycemia or toxic hypoglycemia. The major advantage of this system is that it facilitates a more logical and practical approach to diagnosis and treatment. A general outline of this approach is presented in Table 1. Identifying the causes of neonatal and infantile hypoglycemia is beyond the scope of this article, but they have been summarized elsewhere.[1]

Before discussing these classifications in more detail, it may be helpful to identify the major clinical manifestations that the patient can exhibit regardless of hypoglycemic etiology. The clinical manifestations of hypoglycemia are usually not manifest until the plasma glucose has fallen below 50 mg/dl. As has already been mentioned, there is

TABLE I

CLINICAL CLASSIFICATION OF HYPOGLYCEMIA*

- I. Fasting Hypoglycemia (Spontaneous)
  - A. Pancreatic Beta Cell Tumors (Insulinoma) or Hyperplasia[22, 23]
    - 1. Adenoma, single or multiple (90%)
    - 2. Carcinoma (10%)
    - 3. Nesidioblastosis (in infants and children)
  - B. Extra Pancreatic Tumors[24, 25] [Insulin Secreting and Nonsuppressible insulin-like activity (NSILA-s)][26-27]
    - 1. Mesenchymal (40-60%)
    - 2. Hepatoma (20%-25%)
    - 3. Andrenocortical carcinoma (5%-10%)
    - 4. Gastrointestinal (5%-10%)
  - C. Endocrine Hypofunction (Counter-insulin Glucoregulatory Hormones)
    - 1. Anterior Pituitary Hypofunction
      - a. Panhypopituitarism
      - b. Growth Hormone Deficiency
      - c. ACTH Deficiency
    - 2. Deficient Counter-Insulin Glucoregulatory Hormones
      - a. Glucocorticoid Deficiency
      - b. Thyroid Insufficiency
      - c. Glucagon Insufficiency
      - d. Catecholamine Deficiency
    - 3. Adrenocortical Hypofunction
  - D. Acquired Diffuse Hepatic Dysfunction
    - 1. Acute Hepatic Necrosis
      - a. Viral
      - b. Hepatotoxin
    - 2. Refractory Congestive Heart Failure (rare)
  - E. Congenital Hepatic Disorders (Gluconeogenesis Disorders)
    - 1. Gluconeogenic Enzyme Deficiencies
    - 2. Glycogen Metabolism Disorders
  - F. Substrate Limitations
    - 1. Alanine Deficiency (Infant Ketotic Hypoglycemia)
    - 2. Defective Substrate Conversion
    - 3. Pregnancy
    - 4. Severe Deficiency of Nutrient Intake (Inanition)
    - 5. Renal Failure
  - G. Insulin Autoimmune Hypoglycemia[28]
- II. Postprandial Hypoglycemia (Postabsorptive Reactive)
  - A. Alimentary[29, 30]
    - 1. Partial or Total Gastrectomy
    - 2. Gastrojejunostomy
    - 3. Vagotomy and Pyloroplasty
    - 4. No Gastrointestinal Surgery
      - a. Increased Gastric Emptying
      - b. Abnormal Intestinal Glucose Absorption
  - B. Idiopathic Hypoglycemia
  - C. Developing Diabetes Mellitus
  - D. Glactose — Induced
  - E. Fructose — Induced
  - F. Leucine — Induced
- III. Pharmacologic and Toxic-Induced Hypoglycemia
  - A. Insulin }
  - B. Sulfonylureas } Iatrogenic or Fictitious
  - C. Ethanol
  - D. Propranolol, Salicylates and other miscellaneous drugs
  - E. Ingestion of ackee fruit (hypoglycin)

* Adapted From References #1, #3, #21.

no absolute correlation between symptomatology and corresponding levels of circulating glucose. Some patients are entirely asymptomatic with plasma glucoses of less than 50 mg/dl. Additionally it is often observed that neuroglucopenic symptoms of hypoglycemia may tend to persist for a time even after extracellular glucose levels have returned to normal.

The clinical picture of central hypoglycemia can be very changeable. However, the symptoms and signs of hypoglycemia in the adult can be divided into those due to adrenergic nervous system activation and those due to altered cortical and subcortical function. They are outlined in Table 2.

TABLE 2

SIGNS AND SYMPTOMS OF HYPOGLYCEMIA

Adrenergic Activation	*Disturbed Cortical Function*
Beta Stimulation	Weakness
Tremulousness	Headache
Tachycardia	Blurred or Double Vision
Palpitations	Disturbed Intellectual Function
Diaphoresis	Amnesia
Faintness	Incoordination or Paralysis
Anxiety	Seizures
Hunger	Coma
Gastric Hypermotility	Brain Stem Dysfunction
Nausea	

While the activation of the sympathetic nervous system is more likely to occur with the rapid decline in extracellular glucose, it appears that not only the rate of decline but also the breakthrough of a low glucose threshold may trigger the sympathetic discharge. This threshold is probably repetitive in the same patient as is the sequence of manifestations and patterns of recurrence, but it appears clinically to vary from subject to subject.

The first factor to recognize about hypoglycemia is that it is episodic in nature. While the symptoms may recur repeatedly, ongoing symptoms of chronic fatigue or personality aberrations that last for days or weeks should not be attributed to hypoglycemia. With true hypoglycemia, one of the following three outcomes usually results within minutes to hours:

1. Normal counter-regulatory mechanisms are activated and the blood glucose level reverts to normal.

2. Intake of dietary glucose sources results in normal blood glucose levels.

3. If neither of the above occur, the blood glu-

cose level continues to fall resulting in progression of signs and symptoms of neuroglucopenia.

The most common cause of hypoglycemia encountered in medical practice is the self-administration of exogenous insulin. Most of these patients are diabetics and the recognition that hypoglycemic episodes are very common among insulin-dependent patients is necessary to prevent hypoglycemic sequela. If the physician is not sure that the patient is comatose due to hypoglycemia secondary to too much insulin or hyperglycemia due to diabetic ketoacidosis or hyperosmolar nonketotic coma, parenteral glucose should be given as soon as blood is obtained for glucose analysis. Less cerebral damage is likely to occur from the administration of glucose to a hyperglycemic patient erroneously than would occur if glucose were withheld from a hypoglycemic patient. An error of commission is much preferable to one of omission in this situation. Plasma insulin and cortisol determinations of the initial blood sample also may be necessary to establish the critical diagnosis in a new patient who is nondiabetic.

Occasionally, particularly among health care workers, the clandestine use of insulin may result in "factitious" hypoglycemia. These patients can be best identified by the finding of insulin and syringes on their person or by additional laboratory work-up. The key finding is an absent or low plasma C-peptide in the face of a low glucose and high insulin levels. This virtually excludes the presence of endogenous hyperinsulinism.[31] The C-peptide is a portion of the proinsulin molecule that is split off when insulin is secreted and can be detected by radioimmunoassay. Exogenously administered insulin does not result in high C-peptide levels along with high insulin levels. Thus C-peptide can serve as a marker for endogenous insulin. In the chronic abuser of insulin, the detection of the presence of circulating insulin antibodies would also support the diagnosis.[31]

Another consideration in insulin-induced hypoglycemia is the change, over time, from a typical hypoglycemic response associated with a warning phase predominated by autonomic discharge to an atypical insulin reaction devoid of autonomic nervous systems signs or the appearance of these only at greatly elevated glucose levels. Additionally, the occurrence of occult nocturnal hypoglycemia followed by early morning glucose level elevations in the insulin-treated diabetic is of practical concern. This Somogyi effect may be suspected if there is a history of nightmares, night sweats, nocturnal diaphoresis, sleep disturbances or early morning headaches with a "hungover" feeling.[32, 33] Several objective tests can help establish this entity. Certainly, a nighttime glucose level (i.e., 1-3 AM) showing hypoglycemia would be helpful. A quantatitive urine glucose determination for the 12-midnight to 6 AM interval would generally be the lowest in comparison to the other six-hour samples collected during the day. The use of urinary free cortisol determination performed on the morning urine sample can also be helpful if it is excessively elevated.[34]

Correction of this problem may be achieved by decreasing the morning intermediate or long-acting insulin and replacing a portion of it with regular. If an evening dose is being given, however, it should be reduced or eliminated. A regular bedtime snack consisting of both carbohydrate and protein should be prescribed for all patients on intermediate or long-acting insulin.

Hypoglycemia can also arise in the patient on a regimen of oral sulfonylurea compounds or those taking them surreptitiously. Glucopenic reactions to the oral hypoglycemics may be much more profound and hazardous than those to insulin because of the long duration of their presence and physiologic effect. Chlorpropamide appears to have the highest incidence of hypoglycemic reactions.[35, 36] The factitious use of these agents complicates ruling out the laboratory diagnosis of insulinoma. It is often necessary to screen blood and urine for the presence of these compounds if they are suspected.[3, 37] In addition, with the occurrence of hypoglycemia in a patient on a regimen of oral hypoglycemic agents, a concerted effort should be made to rule out drug-drug interactions that may have yielded a potentiation of the hypoglycemic effect. Among the many agents that have been reported to cause this effect, ethanol, salicylates, oral anticoagulants and phenylbutazone are probably the most significant.[38] These same interacting drugs, along with other compounds such as beta adrenergic blockers, sulfonamides, chloramphenicol, chlorpromazine and monoamine oxidase inhibitors have been cited as causes of glucopenia.

A final common etiologic agent in the production of pharmacologic hypoglycemia is ethanol consumption. While ethanol itself is not a primary hypoglycemic agent, in the setting of glycogen stores depletion due to prolonged poor intake of carbohydrate and excessive alcohol intake hypoglycemia can occur. Ethanol-induced

TABLE 3
PHYSIOLOGIC ACTIONS OF COUNTERINSULIN HORMONES*

	Insulin Release	*Muscle Glucose Uptake*	*Hepatic Gluconeogenesis*	*Proteolysis*	*Lipolysis*	*Ketogenesis*
Epinephrine and Norepinephrine	↓	↓	↑	↑	↑	↑
Glucagon	—	—	↑	—	—	↑
Cortisol	—	—	↑	↑	↑	↑
Growth Hormone	—	↓	—	↓	↑	↑
Thyroid Hormones	—	—	↑	↑	↑	↑

↑ = increase.
↓ = decrease.
—= no major effect.
* Adapted From References #1 & #45.

changes in glucose metabolism have been identified and lead to inadequate gluconeogenesis and glucose release.[39-42] This entity presents primarily alcoholics who have been drinking for several days at a time.

Additionally, alcohol can enhance insulin release after glucose ingestion and has been reported to contribute to postprandial hypoglycemia.[43] It has also been postulated that alcoholic drinks with glucose-containing mixers are more apt to produce this type of hypoglycemia than are straight alcohol drinks.[44] Any patient prone to hypoglycemia or receiving any form of hypoglycemic treatment should be warned of the inherent dangers of alcohol overindulgence.

Physiologically fasting hypoglycemia occurs as a result of decreased gluconeogenesis, impaired glycogenolysis from the liver or a combination of both.[3] An organic etiology is usually demonstrated with the major causes of fasting hypoglycemia being (1) excessive circulating insulin or insulin-like substances due to insulinomas, pancreatic hyperplasia or extra pancreatic tumors secreting insulin or non suppressible insulin-like compounds; (2) counter-insulin glucoregulatory hormone deficiencies and endocrine hypofunction; (3) congenital or acquired hepatic dysfunction; and (4) substrate limitations. Simply stated, hypoglycemia occurring spontaneously in the fasting state can be categorized simply as due to either an underproduction of glucose or overutilization of glucose.

Deficient glucose production can be due to disorders of glycogen metabolism or storage or impairment of gluconeogenesis due to substrate defects or limitations. As these forms of glucopenia occur primarily in infants or children and are relatively rare in occurrence, they will not be discussed.

Deficiencies of counterinsulin glucoregulatory hormones can lead to fasting hypoglycemia. The specific hormones that are of primary interest in this neuroendocrine control system that, in part, opposes the anabolic actions of insulin are catecholamines, glucagon, glucocorticoids, growth hormone and thyroid hormones. These hormones counter the action of insulin during the transition from the fed to the fasting state and meet energy demands by combinations of the following: (1) direct stimulation of the pathways of glycogenolysis and gluconeogenesis to augment hepatic glucose output, (2) inhibition of glucose uptake and assimilation in insulin-sensitive tissues, (3) inhibiting insulin release, (4) providing glucogenic substrate, and (4) mobilizing alternative energy sources.

Table 3 outlines the physiologic actions of counterinsulin hormones and the relative roles each plays in the control system. Deficiencies in secretion of glucagon, epinephrine and norepinephrine, cortisol and thyroid hormones although all working by several mechanisms result primarily in decreasing hepatic gluconeogenesis. Growth hormones major action appears to be in decreasing insulin activity in the peripheral tissues.

Excessive secretion of insulin by B-cell tumors of the pancreas may cause hypoglycemia by overutilization of glucose.[22, 23] Ninety percent of these tumors are benign adenomas while 10% are malignant carcinomas that most often metastasize to the liver and regional lymph nodes.[46] The nonspecific triad (symptomatic, fasting hypoglycemia reversed by glucose) proposed by Whipple is generally the first suspicion of hyperinsulinism. The diagnosis is frequently unsuspected for years since the symptoms are often intermittent and nonspecific and insidious in onset and progression. Eventually, the actions of insulin counterregulatory hormones and the adaptation of insulin receptors to high levels of circulating insulin are overcome and this partial protection to the effects of an insulinoma are lost. There, however, is rarely a dramatic isolated episode of hypoglycemia but just a slow progression of the disorder.

The oral glucose tolerance test shows an erratic response in such patients. Protraction of this test to six to 12 hours may dramatically demonstrate hypoglycemia as protracted fasting can exacerbate the disorder.[47] Vigorus physical exercise can also make the symptomatology more evident. Confirmation of the suspected diagnosis necessitates the confirmation of insulin levels that are inappropriately elevated for a low plasma glucose.

The ratio of plasma insulin to glucose (microunits per ml/mg per 100 ml) has been used to quantitate the insulin and glucose relationship.[7] The normal patient has a ratio below 0.25 while the insulinoma patient ratio is generally above 0.40. An index has also been proposed to substantiate the same thing.[48] It is determined by the plasma insulin level × 100 ÷ blood glucose − 30. Levels higher than 50 are indicative of insulinoma. C-peptide levels are also inappropriately elevated in patients with insulinomas and are a very helpful test in insulin-treated diabetics with circulating insulin antibodies suspected of having an insulinoma.

Pharmacologic provocative tests to evoke excessive release of insulin have been well described.[1, 3] Tolbutamide, glucagon and leucine have all been used but are not usually necessary. These tests all have a certain degree of risk and an attendant number of false-positive and false-negative results.[48]

Nonsuppressible insulin-like activity substances (NSILA-s) also have been identified as etiologic agents in hypoglycemia[46, 47] as have extra-pancreatic tumors.[49, 50] While increased glucose assimilation by the tumor might theoretically occur, it appears that the tumors may produce hypoglycemia by producing a factor that influences glucose homeostasis. One such factor is nonsuppressible insulin-like activity substances. These substances have been isolated in the presence of low circulating insulin levels and may themselves be the hypoglycemic factor rather than insulin. Additional work may clarify the role of these substances and their relationship with hypoglycemia.

An autoimmune origin for hypoglycemia has been described when there are high serum insulin levels and antibodies to insulin. However, the binding of antibody to hormone may be altered so that free insulin is released unexpectedly at inappropriate times leading to hypoglycemia.[51]

Hypopituitarism and hypoadrenocorticism can lead to decreased gluconeogenesis and fasting hypoglycemia. Hypoglycemia during exercise may be a common presentation in childhood hypopituitarism. Often, this entity presents as a seizure with associated low blood glucose and low plasma insulin levels. Growth hormone or glucocorticoids are usually successful in treating these disorders.

The approaches to treatment of hypoglycemia are disalarmingly simple. Administration of glucose is the main thrust of treatment. Serious fasting or toxic hypoglycemia producing confusion or coma is best treated by the intravenous administration of a bolus of 25 gm to 50 gm of glucose as a 50% solution followed by a continuous infusion of 5% to 10% (or more) glucose until the patient is able to eat. It is important to remember that hepatic glycogen repletion is not accomplished by the initial glucose administration. Meal intake is a therapeutic endpoint at which intravenous glucose administration may be discontinued. Spontaneous hypoglycemia due to endocrine hypofunction may additionally require hormone replacement.

If the patients swallowing mechanisms are intact and the hypoglycemia is manifest primarily by an adrenergic reaction without neuroglucopenic signs, simple oral carbohydrates (i.e., glucose-containing liquids) can be given. Parenteral therapy would be preferred, however, if there is any predisposition to possible aspiration. Therapy of recurrent hypoglycemia is dietary. Often, simple avoidance of fasting is all that is required.

The use of intramuscular injections of 1 mg of glucagon usually isn't necessary in the hospital setting where intravenous glucose administration is so easily accomplished. However, this form of treatment at home by nonmedical personnel is still warranted, particularly in the patient at risk of insulin-induced toxic hypoglycemia.

Toxic hypoglycemia due to sulfonylureas may persist for days. This is particularly true with chlorpropamide and its active hepatic metabolites and prolonged elimination in renal disease.[33] These patients often require extended periods (days) of glucose infusion as they can lapse back into coma if the glucose is stopped prematurely.

Indeed, such patients with prolonged overutilization of glucose may best have their glucose administration titered to achieve a mild degree of glycosuria. The persistence of the oral hypoglycemics activity may be due to its inherent, long serum half-life and variable metabolism and elimination in patients with hepatic or renal compromise.

In the patient with true insulinoma, surgery is the treatment of choice. Celiac or superior mesenteric arteriography are usually done to try to localize the lesion. If the tumor isn't palpated in the pancreas, a stepwise tail to head pancreatectomy is carried out with intraoperative analysis of sequential frozen sections. Analysis of pancreatic vein insulin concentrations and frequent plasma glucose measurements can be helpful. An abrupt increase in plasma glucose during an operation may indicate excision of the tumor.

Surgery is usually stopped when 85% of the pancreas has been removed to avoid postoperative malabsorption complications. The use of streptozotocin, mithramycin and adriamycin in the treatment of unresectable or metastatic insulin-producing carcinomas has had limited success. Streptozotocin has provided the best palliative results via systemic or celiac artery injection.[49, 50] Diazoxide has been used intravenously or orally in 0.3 gm to 1.2 gm per day doses prior to an operation and in postoperative care when the tumor wasn't isolated. This drug reduces the release of insulin and may be helpful, but, it usually requires the concomitant use of a diuretic to combat its salt-retaining properties.[51]

There is a large group of situations in which the hypoglycemia occurs only in response to some stimulus, the most common of which is food intake. The terms functional, reactive or postprandial hypoglycemia have been used to identify this group of disorders and to contrast them with hypoglycemias occurring in the fasted state. Patients with such "functional" hypoglycemia have normal fasting blood glucose concentrations, but they become hypoglycemic 30 minutes to four hours after a carbohydrate-containing meal. In this situation, the blood glucose concentration may fall below 50 mg per 100 ml but does not progress to coma or brain stem dysfunction. Complaints are predominantely those of adrenergic activations.

These symptoms are generally not caused by fasting or exercise, but they can be precipitated by an oral five-hour glucose tolerance test. While this is the most widely used test for establishing the diagnosis, the levels of plasma glucose considered to be abnormal during the second to fifth hours of the test are quite controversial. Even though levels of 50 mg per 100 ml or below have been suggested as being abnormal, this level is debated since normal subjects often reach even lower levels without concomitant symptoms. Those with early glucose nadirs on the oral glucose tolerance test are classified as alimentary in origin while those with late nadirs are often reflective of early diabetes.[52, 53]

While the hypersecretion of insulin has been demonstrated in some individuals after a high carbohydrate-containing meal, this is a very variable response. The prediabetic patients often secrete insulin more slowly than normal but for a more extended duration of time resulting in hypoglycemic levels hours after the glucose load is given.[54]

Initial treatment is aimed at minimizing the stimulus for insulin secretion. Patients with postprandial hypoglycemia often receive relief of their symptoms by avoiding refined carbohydrate loads and by changing to a high protein, low-carbohydrate diet. Cholinergic blocking agents also have been used with some success.[6]

Alimentary hypoglycemia is a postprandial phenomenon (90 to 180 minutes after meals) that commonly occurs as an accepted complication after various gastrointestinal operations that include partial or total gastrectomy, gastrojejunostomy or pyloroplasty. While some investigators include alimentary hypoglycemia as one of the common complications of the "dumping syndrome" itself postgastrointestinal surgery, others define it as an associated but separate complication of gastric surgery.[27]

The patient with true alimentary hypoglycemia may respond to multiple small meals. Diets high in complex carbohydrate and fiber and low in simple sugars have generally replaced low-carbohydrate diets. Propranolol, although still investigational for this use, may be an effective adjunct to dietary therapy.[27] The mechanism for this effect of propranolol is not yet clear.

Failure to maintain the plasma glucose concentration within its relatively narrow limits can lead to a critical situation. In the short run, hypoglycemia represents a greater risk than hyperglycemia as a metabolic abnormality. Glucose is the primary energy substrate of the brain and must be maintained at a normal constant level to avoid the cellular complications of hypoglycemia and brain cell death itself.

Apart from insulin reactions in diabetics, hypoglycemia has not been a common problem in the practice of medicine. The diagnosis or "label" of postprandial hypoglycemia has been made with great unrestricted frequency in recent years. Definitions of these disorders and methods of appropriate diagnosis and treatment are imperative for the practicing physician.

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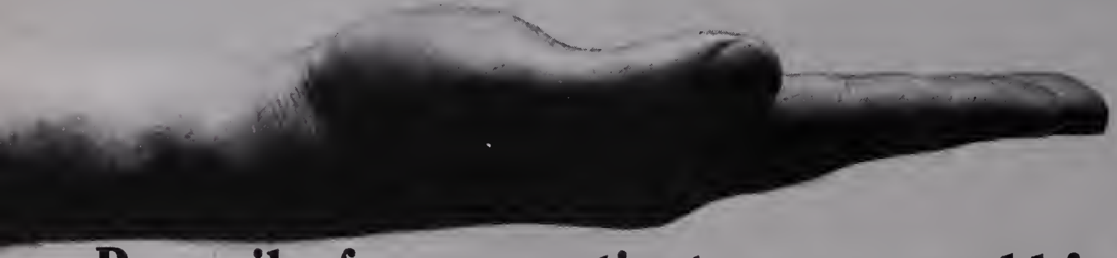

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President's Message

What's A Doctor To Do?

It's no wonder I feel frustrated and perplexed! I'd like to talk to sick people, obtain a history, do a physical examination and make suggestions for better function and more comfort. How should my office practice be organized? Should I be incorporated? Would it really do better to join the HMO, IPA or PPO or some other precontracted health care arrangement? Each week, there seems to be a new set of abbreviations for government agencies with new specific implications for changing my mode of thinking as well as my mode of practice.

Ronald A. Youmans, M.D.

And then I'm asked to play word games with the outside organizers of health care purveyors. The politicians are now approving "prospective pay" while what they mean is Prospective Charge Allowances. I certainly doubt that pay will be given in advance. Congress just passed the TEFRA (Tax Equalization and Fiscal Responsibility Act) that really revamps the entire business of medicine. Whose taxes were equalized?

Wow! We really do have a lot of help working for us! The accountant almost has my income tax ready for the 15th, but he only gives advice after the year has closed and the appropriate time for change has passed. The nurses are doing their best to be of great help to the doctors as well as to their patients. The hospital administrator is really kind and generous, but he is juggling his own set of problems. He has been valuable in providing a wide gamut of sophisticated laboratory tests and, of course, he helps to keep all our complex technology in "the state-of-the-art" level. It is expensive. And the hospital room rate seems astronomical considering that separate charges are made for each portion of the day's activities.

There once was a time when the physician dealt with his patient and the patient with the physician, and all the other facets were adjuncts to this relationship. Allow the patient to participate in his own health care decision? A feeling of responsibility for his own health care could be engendered in the patient rather than the attitude sometimes encountered that "I'm entitled to complete health care. Costs? That's part of my job benefit!"

There is a recurring plea that excessive procedures should not be ordered just to avoid possible future litigation. If the patient were involved in the basic decision-making, including when testing and procedures might be done, it would be a helpful factor in reducing health care demand. A sliding scale cost-participation by the patient would be helpful, perhaps even 2% or 5%. This would be more effective than a "deductible" with subsequent complete coverage. The physician would then share responsibility with the patient. Obviously, if new findings evolve, procedures can be ordered or if the symptoms resolve, the procedure will not be done. This would make the patient aware of his continuing day-by-day involvement and increase his responsibility for self-care.

Best medical care is performed when the physician deals directly with a responsible patient rather than learning word games to fit a Diagnosis Related Grouping.

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MSMA Auxiliary

The only limit to our realization of tomorrow will be our doubts of today. Let us move forward with strong and active faith. — Franklin D. Roosevelt

While thinking of the Auxiliary year ahead, many thoughts run through my mind — goals, challenges, resolutions — what are they and how do they affect us? What is our "*Image*"? How does the general public see us? Are we a "tea and crumpets" group or are we a viable group striving to be sure that our individual communities receive the best possible health care in the best possible facilities at a reasonable cost?

As I enter this year of service, I reflect upon my own "beginning" in medical auxiliary activities. My husband was a medical student when I became involved. Then came his intern-resident years and, then, his private practice. One of the rewarding factors of my being involved was having others of kindred spirit with whom to relate — knowing they understood and that we had many of the same concerns, interests and dedication to volunteerism.

Now as our children are leaving the "nest," it is an added pleasure and challenge to be asked to be president of this unique group of dedicated physicians' spouses.

Mrs. Donald Sanders
President

One of our most important responsibilities now is to *renew, recruit, refresh, reactivate and reach out*. It is my hope that we can continue the programs already initiated (child auto restraints, abuse, vaccinations, teenage alcohol and drug prevention), continue to augment our AMA Auxiliary programs (Shape-Up in physical and mental fitness, intergenerational activities, legislation) and to implement new and expand our ongoing programs with the Missouri State Medical Association.

"*When you can do the common things in life in an uncommon way, you will command the attention of the world,*" said George Washington Carver.

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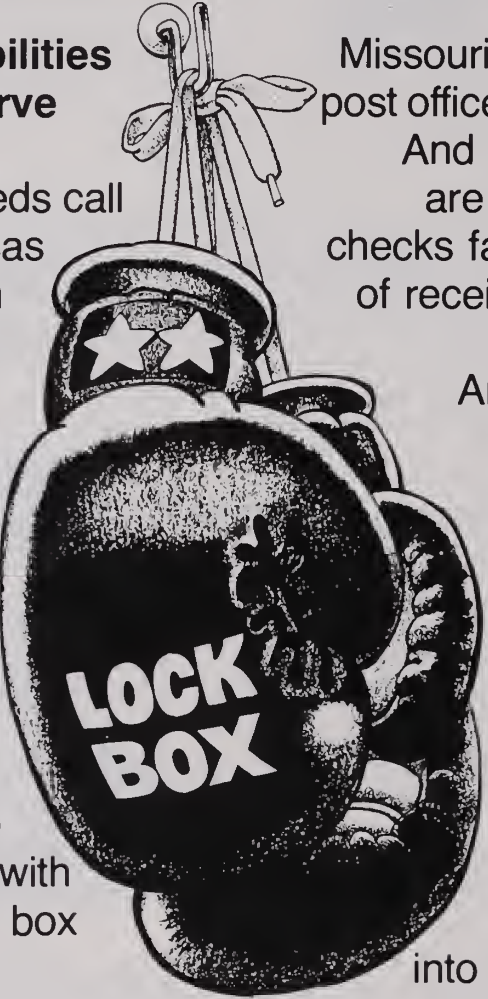

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COMMENT

Our Readers Write

To The Editor:

Ten years ago, the Missouri Academy of Family Physicians implemented the Physician of the Day Program to provide emergency medical care to the legislators and visitors at the Capitol.

Since 1973, the program has experienced a tremendous success rate, with 97% coverage on all of the days the legislature was in session: This success is attributable to many individuals.

It is appropriate, therefore, at this time to extend the sincere appreciation of the MAFP to the numerous MAFP members who volunteered their time (at their own expense) to serve as Physician of the Day, to the MSMA staff for their assistance and to the legislators for their continued interest in the program.

We are confident that with the continued support of the members and staff, the program will experience success for many years to come. To everyone involved, we extend our thanks.

Sincerely,
Ben A. Moranville, M.D.
Chairman
Physician of the Day Program
Ben H. Koon, M.D.
Chairman, Legislative Affairs Committee

To The Editor:

I have been a member of the Missouri Senate for the last ten years and have been a "watcher" of the General Assembly for many years prior to that time. One of the things that has troubled me in the General Assembly is the lack of physicians as far as vocations are concerned.

In looking back through old state manuals, I note that some 50 years ago there were five or six physician members of the General Assembly. Since I have been here, there have been only two — Dr. Gerald Rodrick of Clay County and Dr. Paul Busick of Springfield. Over the years, the percentage of lawyers in the General Assembly has also declined. Indeed, it has diminished rapidly in the last few years.

I think your profession would be well advised to at least investigate the possibility of urging some of your members to seek legislative positions. I know it would be a sacrifice, but it is a sacrifice someone should make.

Very truly yours,
Sen. Emory Melton
Missouri District 29
Missouri Senate
Jefferson City

In Memoriam

Edward J. Becker, M.D., 511 S. Warson, St. Louis 63124; graduate of St. Louis University, 1941; member of St. Louis Metropolitan Medical Society; aged 72; died Feb. 2, 1983.

James M. Baker, M.D., 1206 London Dr., Columbia 65201; graduate of Washington University, 1934; member of Boone County Medical Society; aged 75; died Feb. 3, 1983.

John F. Rutledge, M.D., 409 Mississippi Ave., Crystal City 63019; graduate of St. Louis University, 1920; member of Jefferson County Medical Society; aged 86; died Feb. 8, 1983.

Eugene L. Bales, M.D., Bales Clinic, 111 N. Folger, Carrollton 64633; graduate of the University of Kansas, 1933; member of Grand River Medical Society; aged 76; died Feb. 14, 1983.

William T. Fitzgerald, Jr., M.D., 3915 Watson, St. Louis 63109; graduate of St. Louis University, 1950; member of St. Louis Metropolitan Medical Society; aged 60; died Feb. 15, 1983.

Donald B. Strominger, M.D., 4989 Barnes Hospital Plaza, Suite 5106, St. Louis 63110; graduate of Washington University, 1953; member of St. Louis Metropolitan Medical Society; aged 54; died Feb. 22, 1983.

Mrs. Donald Sanders Elected MSMA Auxiliary President

Mrs. Donald C. Sanders, Kansas City, was installed as president of the MSMA Auxiliary at its 58th Annual Convention at Tan-Tar-A Resort in Osage Beach on March 19. She is a member of the Jackson County Medical Society Auxiliary.

As a member of the MSMA Auxiliary Executive Board, Mrs. Sanders has served as president-elect, a member of the archives, membership and reading committees and was chairman for AMA-ERF for three years. She also served as co-chairman for the MSMF/AMA-ERF Annual Benefit Auction for two years and as co-chairman for the Auxiliary annual convention in 1982.

Her community affairs and professional organization activities are numerous. She served in many offices in the PTA for 15 years and as president for two years. Active in the Girl Scouts, she was a leader for ten years. Her other affiliations include the Greater Kansas City Dietetic Association, Friend of the Arts, Friends of the Zoo and she is a member of four hospital auxiliaries.

Her church activities include teaching Sunday School, being a member of the choir and of various committees in charge of weekly dinners and other related special functions. She has held several offices in her Woman's Missionary Society and served as president for two years. She is a member of the DAR and BSU.

Mrs. Sanders earned her associate BS Degree at Amarillo (Texas) Junior College and graduated from the University of Missouri-Columbia with a BS Degree in Foods and Nutrition. She is a registered dietitian who has continued her education via attending seminars, workshops and classes "to keep abreast of new developments in dietetics and for personal growth and development."

Dr. and Mrs. Sanders are the parents of three children: Debbie, a graduate of Kansas University and an occupational therapist now employed in a private clinic in Nevada (Mo.); Bob, a business and finance graduate of the University of Missouri-Columbia and a first-year law student at Syracuse University Law School in Syracuse, N.Y.; and Lynn, who is attending the University of Missouri-Columbia where her major is in interior and house design. She will graduate in 1984.

Dr. Sanders is a specialist in psychiatry.

Other Auxiliary officers elected for 1983-1984 are Mrs. Richard Bowles, Liberty, president-elect; Mrs. George Bohigian, St. Louis, first vice-president; Mrs. Stephan Vilmer, Shawnee Mission, Kan., second vice-president; Mrs. John Mitchell, Shawnee Mission, Kan., third vice-president; Mrs. W. C. Dandridge, Jr., Joplin, fourth vice-president; Mrs. Gary Dyer, St. Joseph, recording secretary; Mrs. James T. Shaw, Hermann, treasurer; and Mrs. Robert Thomas, Columbia, Auditor.

Directors are Mrs. Ramon R. Dy-Ragos, Kansas City, First District; Mrs. John H. Waltersheid, Hannibal, Second District; Mrs. Richard F. Huck, St. Louis, Third District; Mrs. Ludwig O. Muench, Washington, Fourth District; Mrs. Ray Lyle, Versailles, Fifth District; Mrs. Robert Edmonds, Sedalia, Sixth District; Mrs. John Hunkeler, Shawnee Mission, Kan., Seventh District; Mrs. Chris Palcheff, Springfield, Eighth District; Mrs. Marvin L. Fowler, West Plains, Ninth District; and Mrs. Tom Espinosa, Poplar Bluff, Tenth District.

Mrs. Sanders appointed Mrs. George P. Williams, Kansas City, as corresponding secretary and Mrs. A. J. Campbell, Sedalia, as parliamentarian.

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Dr. Robert Mortenson Director of Conferences and Institutes of the University of Nebraska

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MM-SNC

NEWS From the Medical Schools

UNIVERSITY OF MISSOURI-KANSAS CITY

Ten medical students are recipients of Hedgepeth Trust Scholarship Awards, along with students from the UMKC Schools of Dentistry and Nursing. Medical students receiving awards this year are *Anthony R. Anderson, Mark A. Barnes, Gina A. Gray, Anthony C. Gutierrez, Debra A. Jamison, Warrett Kennard, Madeline T. Lemee, Joy A. McElroy, Olevia A. Mitchem,* and *Jerda M. Riley*. The Hedgepeth Trust Fund was established by *George Hedgepeth*, M.D., who served 57 years on Hospital Hill in Kansas City. The fund has awarded $25,383 to 48 students since its inception three years ago.

Sixth-year medical student *Azam Anwar* is the recipient of this year's scholarship award from the Philippine Medical Association Scholarship Group, Inc. of Greater St. Louis.

The School of Medicine will be the host institution for the annual meeting of the Central Group on Medical Education of the Association of American Medical Colleges on April 18-20. *Dr. Richardson K. Noback*, senior docent, will be the panel speaker on undergraduate education and the teaching of geriatrics. *Dr. Charles B. Wilkinson*, associate dean for development at the medical school, will moderate a discussion on the general professional education of the physician. *Lee Willoughby*, director of the medical school's Evaluation Resource Center, will present data on "The UMKC Model: A Cyclical Approach."

Dean Harry S. Jonas spoke at a regional hearing on the general professional education of the physician (GPEP) of the Association of American Medical Colleges at Northwestern University in Chicago in March. GPEP is the three-year project undertaken by the AAMC to review and appraise the general professional education of the physician and college preparation for medicine.

The School of Medicine has received funding from the National Fund for Medical Education to support two grant projects. The first award is for $63,090 to support the project "Instructional Materials for Education in Cost Effective Patient Care." The two-year project was submitted jointly by *Dr. Jack Mulligan*, professor of medicine and docent, and *Dr. Louise Arnold*, assistant research professor.

The second project is a program designed to support efforts in minority and economically disadvantaged students under the National Fund's special tutorial program. The application submitted by *Assistant Dean Virginia Calkins, Dr. Willie McLemore*, senior docent, and *Mr. Russell Jones*, director of administration, was awarded $17,375. The grant will enhance the school's Summer Scholars Program and will provide necessary stipends for minority and disadvantaged students at the medical school.

John W. Clarke, M.D., associate professor in the Department of Community Medicine and Family Practice and president of the National Rural Primary Care Association (NRPCA), has announced that the NRPCA will relocate its nationally-based organization to the UMKC Hospital Hill Campus by mid-June, 1983. This action recently occurred during the annual meeting of the NRPCA held in Kansas City on March 7-11.

UNIVERSITY OF MISSOURI-COLUMBIA

Several UMC School of Medicine alumni were honored during a special luncheon March 18 during Missouri State Medical Association annual convention at Tan-Tar-A Resort.

Dr. Donlin M. Long, professor and chairman of neurological surgery at the Johns Hopkins Medical School and neurosurgeon-in-chief at the Johns Hopkins Hospital, received the 26th Citation of Merit in Medicine. A member of the UMC Class of 1959, Dr. Long was born and raised in Missouri. He was elected to seven honorary societies at UMC and received the University Medical Foundation Award.

During residency at the University of Minnesota, he did graduate work in electron microscopy, earning a Ph.D. He held positions at Peter Brigham and Children's Hospital in Boston, at the National Institutes of Health and at the University of Minnesota before joining Johns Hopkins Medical School.

Dr. Long has published more than 130 journal articles on topics including pain control, brain tumors, air embolisms and intracranial aneurysms.

Dr. Ann Johanson and *Dr. John B. McCraw* received the second annual Young Physician

Awards. Dr. Johanson, a member of the Class of 1962, is professor of pediatrics at the University of Virginia Medical Center in Charlottesville where she specializes in pediatric endocrinology. Dr. McCraw is professor of plastic surgery at the Eastern Virginia Medical School in Norfolk. A member of the Class of 1966, Dr. McCraw is well-known for his pioneering work on myocutaneous flaps.

Dr. Norman Asel of Columbia and *Dr. Thomas Ferrell, Jr.* of Springfield, both retired, were presented with Special Services Awards. *Dr. John Patton* and *Dr. Hubert Ritter*, both of St. Louis, were made honorary members of the UMC Medical Alumni Organization.

ST. LOUIS UNIVERSITY

Paul J. Garvin, M.D., associate professor of surgery, headed a transplant team that performed the first pancreas transplant in the St. Louis area. The transplant was performed at the John J. Cochran Division, Veterans Administration Medical Center in St. Louis.

Dr. Garvin has been investigating pancreatic transplantation for more than two and one half years. The information obtained from these studies along with the extensive experience with human kidney transplantation at the Veterans Administration Transplant Unit led to this pilot study with pancreatic transplantation.

There are approximately 30 institutions in the world where more than 225 pancreas transplants have been performed. Of these, the majority were performed in patients who received both a kidney and pancreas transplant either simultaneously or in two stages. The patient who received a pancreas transplant in this case had already received a kidney transplant.

In a major reorganization of St. Louis University Medical Center's administration, three of the top medical officers have new positions.

William Stoneman, M.D., dean of the School of Medicine, is now also an associate vice president for the Medical Center. In addition to his duties as dean, Dr. Stoneman will coordinate all the medical center's educational and clinical affiliations both on a local and national level. Dr. Stoneman was named dean of the school of medicine in July. He had previously been the executive associate dean since 1976 and has been associated with the medical center as student, physician, teacher and administrator for more than 30 years.

Stephen M. Ayres, M.D., chairman, Department of Internal Medicine, has assumed the position of medical director for St. Louis University Hospitals. Dr. Ayres will be responsible for organizing and integrating the clinical activities of the medical faculty, emphasizing quality health care as a major medical center priority.

Dr. Garvin

Dr. Stoneman

Dr. Ayres

Dr. Donati

Drs. Ayres' and Stoneman's positions were effective immediately.

In another appointment, *Robert M. Donati*, M.D., professor, Department of Internal Medicine, was named senior associate dean effective July 1. Dr. Donati will remain in his present office as chief of staff at St. Louis Veterans Administration Medical Center until June 30.

As senior associate dean, Dr. Donati's principal responsibilities will include coordinating the school's basic science training programs, coordinating certain clinical activities of medical faculty and finding support from public and private sources for faculty research.

In other administrative appointments, *Richard Stensrud*, formerly director of St. Louis Unviersity Hospitals, was named associate vice-president for the medical center and chief executive officer for the hospitals. *Herb Schneiderman*, formerly associate director for the hospitals, was named director and chief operating officer for the hospitals.

NEWS About CME Events

Menorah Medical Center
4949 Rockhill Rd., Kansas City 64110
(816) 276-8000
Contact: **Erich W. Pollak, M.D., Director of Surgical Education, for the following:**

4:00 PM — Basic Sciences to Surgery Seminar
(Monday through Friday)
3:00 PM — Surgical Rounds
(Every Wednesday and Friday)
4:00 PM — Surgical Techniques Seminar
(Every second and fourth Wednesday)
4:45 PM — Morbidity and Mortality Conference
(Every fourth Wednesday)
8:00 AM — Morbidity and Mortality Conference
(Every second Saturday)
7:00 AM — Surgical Grand Rounds
(First and third Thursdays)

Contact: **David S. Sneid, M.D., Director of Medical Education, for the following:**

9:00 AM — Medicine Staff Conference
(First, third and fourth Tuesdays)

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
Contact: **Alta Bingham**

April 21-23	Update in Obstetrics and Gynecology (Hyatt Regency Hotel)
May 12-13	Surgical Problems — The Old and the New (Alameda Plaza Hotel)
May 20-21	The Long Weekend (Alameda Plaza Hotel)
June 4	Symposium on Physical Fitness (Crown Center Hotel)
Sept. 23-24	The Long Weekend (Alameda Plaza Hotel)
Nov. 3-5	Annual Fall Clinical Conference — Kansas City Southwest Clinical Society (Alameda Plaza Hotel)
Dec. 8-10	The Heart 1983 (Alameda Plaza Hotel)

Mercy-Baptist Eye Foundation
615 S. New Ballas Rd., St. Louis 63141
(314) 432-5478
Contact: **Mrs. Judi Kramer, Coordinator**

May 15	16th Eye Seminar — Laser Surgery for Cataract, Glaucoma and Retina

The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

The Edward Mallinckrodt Institute of Radiology — Washington University School of Medicine
510 S. Kingshighway, St. Louis 63110
(314) 367-2131
Contact: **Ronald G. Evens, M.D., Director**

April 21	Cancer Workshop: New Perspectives in the Management of Early Breast Cancer
April 22	Colorectal Cancer and Carcinoma of the Uterine Cervix
April 23	Surgery-Oncology Grand Rounds
May 9	City-Wide Radiology Conference — Pediatric Radiology
May 6-14	Fifth Annual Current Concepts in Musculoskeletal Radiology and Orthopedics (With Inter-American Congress of Radiology) (Acapulco)

The Ed Bixby Institute Research Medical Center
2316 E. Meyer Blvd., Kansas City 64132
(816) 276-4306
Contact: **Jane L. Jackson, Director of Seminars**

June 1	Pulmonary Disease: Critical Care
Aug. 3	New Radiology Techniques

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3873
Contact: **Loretta Giacoletto, Office of CME**

Nov. 11-13	Tenth Annual Symposium: Anesthesia and The Geriatric Patient (Contact: Dept. of Anesthesiology — 314-454-2858)

St John's Mercy Medical Center
615 S. New Ballas Rd., St. Louis 63141
(314) 569-6000
Contact: **Felix E. F. Larocca, M.D.**

April 16	"The First BASH Annual Conference on Eating Disorders"

University of Missouri-Columbia School of Medicine Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
Contact: William D. Bradshaw, M.D., Director

Apr. 20, 21	Sixth Annual Primary Pediatrics for the Primary Physician (Columbia)
Apr. 29, 30	Second Annual Missouri Clinical Conference on Arthritis (Columbia)
May 6-8	Sixth Annual Missouri Cardiovascular Conference (Tan-Tar-A, Osage Beach)
May 18-20	Inflammatory Bowel Disease (Columbia)
Aug. 6, 7	Sixth Annual Soft Tissue Surgery Workshop (St. Louis)
Oct. 20-22	Fifth Annual Advances in Rheumatology Symposium (Columbia)
Nov. 4, 5	26th Annual Physicians Weekend (Columbia)

American Burn Association
Saint Elizabeth Community Health Center
555 South 70th, Lincoln, Neb. 68510
Contact: Robert W. Gillespie, M.D.

Sept. 16-17	Comprehensive Care of the Burn Patient (Hyatt Regency Hotel, Kansas City)

Missouri Chapter, American College of Surgeons, Inc.
P.O. Box 4562, Springfield 65808
Contact: Linda Whelan, Executive Secretary
(417) 887-1970

June 17-18	1983 Annual Professional Meeting Lodge of the Four Seasons, Lake of the Ozarks

The Jewish Hospital of St. Louis
216 S. Kingshighway, P.O. Box 1419, St. Louis 63178
Contact: Alan P. Lyss, M.D., (314) 454-7463

The Maryilyn Fixman Clinical Cancer Conference

Apr. 20	Malignant Melanoma
May. 18	Interpreting Cancer Literature
June 15	Testicular Carcinoma

Bethesda Eye Institute
Ophthalmology Department
St. Louis University School of Medicine
3655 Vista Lane, St. Louis 63110
Contact: Monica A. Cauley, (314) 772-9200, Ext. 395

May 19-20	Oculoplastics Workshop

Cardinal Glennon Memorial Hospital for Children
1465 S. Grand Blvd., St. Louis 63104
(314) 577-5000

June 15-17	Updating Skills and Knowledge in Neonatology Combined With A Fun Family Vacation in the Ozarks (For Pediatricians and Family Practice Physicians) (Tan-Tar-A, Osage Beach)

Mid-American Heart Institute of St. Luke's Hospital
Center for Continuing Education
44th and Wornall, Kansas City 64111
(816) 932-2111
Contact: Pat Prochaska or Jane Popp

Apr. 28-30	Third Annual Symposium on Advances in Heart Disease

Correction Please!

Please disregard the listing of a seminar on "Spinal Disorders in Children" on October 29-30 at the St. Louis University Medical Center that appeared in the March issue.

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MSMA Members Receive Physician's Recognition Award

Seventy-three MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the period of February, 1983.

The award is voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in Missouri Medicine as they are received from the AMA.

Riley R. Adams, Cape Girardeau
Victor H. Albera, St. Clair
Jorge M. Alegre, Chesterfield
Vatche H. Ayvazian, St. Louis
Donald F. Bandle, St. Louis
Pat A. Barelli, Kansas City
Fernando V. Basantz, Kansas City
Gerard H. Berndsen, St. Louis
Arnold S. Block, St. Louis
Diane T. Brukardt, Columbia
Howard W. Carrington, Lebanon
Paul J. Centner, Kansas City
Robert A. Chandler, Kansas City
Sae R. Choi, St. Louis
Mahmood H. Choudhury, Houston
Tai-Yong, Chung, Poplar Bluff
Thomas E. Cochran, Springfield
Hillard K. Cohen, St. Ann
Robert F. Dettmer, Ironton
William E. Dorzab, Kansas City
William F. Dreyer, Houston
Robert C. Egan, St. Louis
Donald O. Eldenburg, Sedalia
Jan D. Garwood, Nevada
Theodore J. Glenn, Cape Girardeau
Rama M. Gudapati, Aurora
Premlall Gukhool, Liberty
Raymond W. Hartwig, Kansas City
Robert M. Hazen, Kansas City
Thomas W. Henderson, Dexter
Dennis E. Hite, Lebanon
Simon Horenstein, St. Louis
Sally L. Hubbard, Springfield
Michael J. Isserman, St. Louis
Jose C. Kayanan, Kansas City
L. J. Kennington, Chesterfield
Jerry L. Kinder, Cape Girardeau
Francis C. King, St. Louis
Alice D. Kitchen, St. Louis
George M. Klingner, Springfield
Kenneth W. Koldys, Cape Girardeau
Jerold E. Lancourt, St. Joseph
Curtis W. Long, Butler
Gamaliel G. Lotuaco, Kansas City
Robert C. Loynd, Clayton
George E. Mendelsohn, St. Louis
Maria A. S. Mendez, St. Louis
Carol R. Mischnick, St. Louis
John L. Mothershead, St. Joseph
Wilbur A. Mullarky, St. Ann
Toshio Nishi, St. Louis
George C. Olive, Neosho
David E. Perkins, St. Louis
Anchala N. Reddy, Joplin
Walter F. Ricci, Kansas City
Thomas F. Richardson, St. Louis
Harold D. Ridings, Cape Girardeau
Pepito C. Rivera, Brookfield
Earl D. Russell, Springfield
Carol A. Ryser, Kansas City
Alden P. Sargent, Sikeston
Edwin H. Schmidt, St. Louis
Philip J. Shanahan, Creve Coeur
D. M. Stinnett, Joplin
Henry G. Stratmann, St. Louis
Ettayapuram Sunderrajan, Columbia
Thomas R. Thale, St. Louis
Jerome H. Thies, Osceola
Bennie N. Till, Poplar Bluff
Jay F. Tuttle, St. Louis
Houshang Vafi, St. Louis
Gloria E. Viamontes, St. Louis
Jorge A. Viamontes, Creve Coeur

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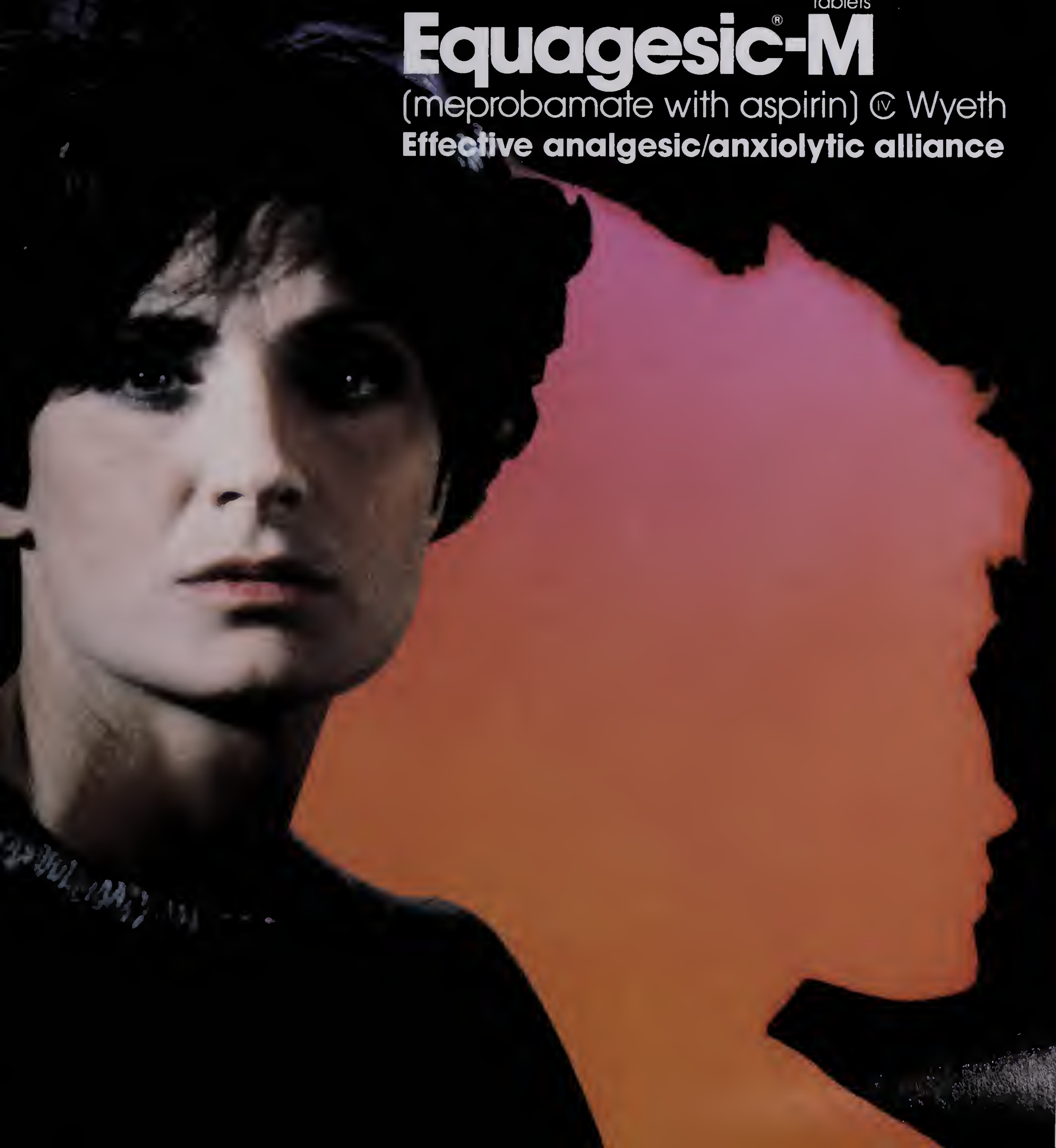

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CONTRAINDICATIONS: ASPIRIN Allergic or idiosyncratic reactions to aspirin or related compounds MEPROBAMATE Acute intermittent porphyria, allergic or idiosyncratic reactions to meprobamate or related compounds, e g carisoprodol, mebutamate, or carbromal.

WARNINGS: ASPIRIN Use salicylates with extreme caution in patients with peptic ulcer, asthma, coagulation abnormalities, hypoprothrombinemia, vitamin K deficiency, or those on anticoagulants In rare instances, aspirin in persons allergic to salicylates may result in life-threatening allergic episodes

MEPROBAMATE DRUG DEPENDENCE Physical and psychological dependence, and abuse have occurred Chronic intoxication from prolonged ingestion of, usually, greater than recommended doses is manifested by ataxia, slurred speech, and vertigo, Therefore, carefully supervise dose and amounts prescribed and avoid prolonged use, especially in alcoholics and others with known propensity for taking excessive quantities of drugs. Sudden withdrawal after prolonged and excessive use may precipitate recurrence of preexisting symptoms, e g anxiety, anorexia, or insomnia, or withdrawal reactions, e g , vomiting, ataxia, tremors, muscle twitching, confusional states, hallucinosis, and, rarely, convulsive seizures. Such seizures are more likely in persons with CNS damage or preexistent or latent convulsive disorders Onset of withdrawal symptoms occurs usually within 12 to 48 hours after discontinuation, symptoms usually cease within next 12-to-48-hour period When excessive dosage has continued for weeks or months, reduce dosage gradually over 1 to 2 weeks rather than stop abruptly Alternatively, a short-acting barbiturate may be substituted, then gradually withdrawn

POTENTIALLY HAZARDOUS TASKS Warn patients meprobamate may impair mental or physical abilities required for potentially hazardous tasks, e g , driving or operating machinery

ADDITIVE EFFECTS Since CNS-suppressant effects of meprobamate and alcohol or meprobamate and other psychotropic drugs may be additive, exercise caution with patients taking more than one of these agents simultaneously

USAGE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with minor tranquilizers (meprobamate, chlordiazepoxide, and diazepam) during first trimester of pregnancy, has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of childbearing potential may be pregnant at time of institution of therapy should be considered. Advise patients if they bebecome pregnant during therapy or intend to become pregnant to communicate with their physicians about desirability of discontinuing the drug.

Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breastfeeding patients, consider the drug's higher concentrations in breast milk as compared to maternal plasma levels.

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PRECAUTIONS: ASPIRIN Salicylates antagonize uricosuric activity of probenecid and sulfinpyrazone Salicylates are reported to enhance hypoglycemic effect of sulfonylurea antidiabetics.

MEPROBAMATE Use lowest effective dose, particularly in elderly and/or debilitated, to preclude over-sedation Meprobamate is metabolized in the liver and excreted by the kidney, to avoid excess accumulation exercise caution in its use in patients with compromised liver or kidney function Meprobamate occasionally may precipitate seizures in epileptic patients It should be prescribed cautiously and in small quantities to patients with suicidal tendencies.

ADVERSE REACTIONS: ASPIRIN May cause epigastric discomfort, nausea, and vomiting Hypersensitivity reactions, including urticaria, angioneurotic edema, purpura, asthma, and anaphylaxis may rarely occur Patients receiving large doses of salicylates may develop tinnitus

MEPROBAMATE CNS Drowsiness, ataxia, dizziness, slurred speech, headache, vertigo, weakness, paresthesias, impairment of visual accommodation, euphoria, overstimulation, paradoxical excitement, fast EEG activity.

GI. Nausea, vomiting, diarrhea

CARDIOVASCULAR Palpitation, tachycardia, various forms of arrhythmia, transient ECG changes, syncope, hypotensive crisis

ALLERGIC OR IDIOSYNCRATIC Milder reactions are characterized by itchy, urticarial, or erythematous maculopapular rash, generalized or confined to the groin Other reactions include leukopenia, acute nonthrombocytopenic purpura, petechiae, ecchymoses, eosinophilia, peripheral edema, adenopathy, fever, fixed drug eruption with cross-reaction to carisoprodol, and cross-sensitivity between meprobamate/mebutamate and meprobamate/carbromal Rare, more severe hypersensitivity reactions include hyperpyrexia, chills, angioneurotic edema, bronchospasm, oliguria, and anuria. Also, anaphylaxis, exfoliative dermatitis, stomatitis, and proctitis Stevens-Johnson syndrome and bullous dermatitis have occurred.

HEMATOLOGIC (SEE ALSO "ALLERGIC OR IDIOSYNCRATIC") Agranulocytosis, aplastic anemia have been reported, although no causal relationship has been established, and thrombocytopenic purpura

OTHER Exacerbation of porphyric symptoms

DOSAGE AND ADMINISTRATION: Usual dose is one or two tablets, 3 to 4 times daily as needed for relief of pain when tension or anxiety is present Not recommended for patients 12 years of age and under

OVERDOSAGE: Treatment is essentially symptomatic and supportive Any drug remaining in the stomach should be removed Induction of vomiting or gastric lavage may be indicated Activated charcoal may reduce absorption of both aspirin and meprobamate Aspirin overdosage produces usual symptoms and signs of salicylate intoxication Observation and treatment should include management of hyperthermia, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions. Suicidal attempts with meprobamate have resulted in drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse Some suicidal attempts have been fatal The following data, reported in the literature and from other sources, are not expected to correlate with each case (considering factors such as individual susceptibility and length of time from ingestion to treatment), but represent usual ranges reported Acute simple overdose (meprobamate alone) Death has been reported with ingestion of as little as 12 gram meprobamate and survival with as much as 40 gram.

BLOOD LEVELS:

0 5-2 0 mg percent represents usual blood-level range after therapeutic doses The level may occasionally be as high as 3 0 mg percent

3-10 mg percent usually corresponds to findings of mild-to-moderate symptoms of overdosage, such as stupor or light coma.

10-20 mg percent usually corresponds to deeper coma, requiring more intensive treatment Some fatalities occur.

At levels greater than 20 mg percent, more fatalities than survivals can be expected

Acute combined overdose (meprobamate with other psychotropic drugs or alcohol). Since effects can be additive, history of ingestion of a low dose of meprobamate plus any of these compounds (or of a relatively low blood or tissue level) cannot be used as a prognostic indicator

In cases of excessive doses, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels Any drug remaining in stomach should be removed and symptomatic treatment given Should respiration or blood pressure become compromised, respiratory assistance, CNS stimulants, and pressor agents should be administered cautiously as indicated Diuresis, osmotic (mannitol) diuresis, peritoneal dialysis, and hemodialysis have been used successfully in removing both aspirin and meprobamate. Alkalinization of the urine increases excretion of salicylates Careful monitoring of urinary output is necessary, and caution should be taken to avoid overhydration

Relapse and death, after initial recovery, have been attributed to incomplete gastric emptying and delayed absorption

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Steven A. Bieterman, M.D., #7 Lakeridge Rd., Poplar Bluff 63901, has become a member of Butler-Wayne-Ripley-Carter County Medical Society. Dr. Bieterman is a native of Omaha, Neb., received his preliminary education at the University of Nebraska and his M.D. degree at the University of Nebraska in 1978. He specializes in obstetrics and gynecology.

Richard E. Cannon, M.D., 9 Warwick Downs, St. Charles 63301, has become a member of St. Charles-Lincoln County Medical Society. Dr. Cannon is a native of Hollywood, Calif., received his preliminary education at Loyola University and his M.D. degree at St. Louis University in 1961. He specializes in pediatrics and allergy.

James G. Coates, M.D., 17 Susset Dr., St. Louis 63144, has become a member of St. Louis Metropolitan Medical Society. Dr. Coates is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1979. He specializes in internal medicine.

Kathleen M. Desire, M.D., 600 E. 8th, Kansas City 64106, has become a member of Jackson County Medical Society. Dr. Desire is a native of New York and received her M.D. degree at Howard University in 1982. She specializes in emergency medicine.

Daniel M. Downs, M.D., 10821 Horton, Shawnee Mission, Kan. 66211, has become a member of Jackson County Medical Society. Dr. Downs is a native of New York, received his preliminary education at the West Point Military Academy and his M.D. degree at Union University in 1977. He specializes in orthopaedic surgery.

Mark R. Galant, M.D., 8 S. Ridge Ave., Liberty 64068, has become a member of Jackson County Medical Society. Dr. Galant is a native of Washington, D.C. and received his baccalaureate and M.D. degree from the University of Missouri-Kansas City in 1982. He specializes in internal medicine.

Paul J. Garvin, M.D., 1325 S. Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Garvin is a native of Boston, Mass., received his preliminary education at Boston College and his M.D. degree at St. Louis University in 1971. He specializes in general surgery.

Richard J. Gimpelson, M.D., 14377 Woodlake Dr., Chesterfield 63017, has become a member of St. Louis Metropolitan Medical Society. Dr. Gimpelson is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at the University of Missouri-Columbia in 1973. He specializes in obstetrics/gynecology.

Sharon A. Godar, M.D., 9900 Crestwick Dr., St. Louis 63128, has become a member of St. Louis Metropolitan Medical Society. Dr. Godar is a native of St. Louis, received her preliminary education at St. Louis University and her M.D. degree at the University of Missouri-Columbia in 1979. She specializes in family practice.

Daniel D. Goran, M.D., 13208 Dartagnan, St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Goran is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at Washington University in 1978. He specializes in dermatology.

Robert E. Gunnoe, M.D., 2110 Kenwood, Olathe, Kan. 66062, has become a member of Jackson County Medical Society. Dr. Gunnoe is a native of West Virginia and received his preliminary education at the University of Virginia and his M.D. degree at West Virginia University in 1977. He specializes in dermatology.

Lesley A. Hanson, D.O., 7239 Lyndover, Maplewood, St. Louis 63143, has become a member of St. Louis Metropolitan Medical Society. Dr. Hanson is a native of Milwaukee, Wis., received her preliminary education at University of Wisconsin and her D.O. degree at the Des Moines College of Osteopathic Medicine and Surgery in 1975. She specializes in internal medicine.

Paul F. Hintze, M.D., 355 Novara Dr., Manchester 63011, has become a member of St. Louis Metropolitan Medical Society. Dr. Hintze is a native of Corvallis, Ore., received his preliminary

(Please turn to page 222)

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Brief Summary of prescribing information

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education at Brigham Young University and his M.D. degree at the University of Utah in 1978. He specializes in internal medicine.

John H. Irwin, D.O., 6512 E. 55th Terr., Kansas City 64129, has become a member of Jackson County Medical Society. Mr. Irwin is a native of Caribou, Me., received his preliminary education at Colby College and his D.O. degree at Kansas City College of Osteopathic Medicine in 1981. He specializes in internal medicine.

Rostam Kavoossi, M.D., 12255 DePaul Dr., Bridgeton 63044, has become a member of St. Louis Metropolitan Medical Society. Dr. Kavoossi is a native of Yazd, Iran, received his preliminary education at Pahlavi University and his M.D. degree at Pahlavi University in 1974. He specializes in physical medicine and rehabilitation.

Robert J. Koogler, M.D., 4839 Skyline Dr., Shawnee Mission, Kan. 66205, has become a member of Jackson County Medical Society. Dr. Koogler is a native of Kirksville and received his baccalaureate and M.D. degree from the University of Missouri-Kansas City School of Medicine in 1982. He specializes in internal medicine.

Behjat Kouchekzadeh, M.D., 2389 Broadmont Center, Chesterfield 63017, has become a member of St. Louis Metropolitan Medical Society. Dr. Kouchekzadeh is a native of Tehran, Iran, received his preliminary education at Tehran Medical School and his M.D. degree at Tehran Medical School in 1971. He specializes in pathology.

Benjamin I. Lee, M.D., 7549 Parkdale #3-N, Clayton 63105, has become a member of St. Louis Metropolitan Medical Society. Dr. Lee is a native of New York, received his preliminary education at New York University and his M.D. degree at Georgetown University in 1977. He specializes in internal medicine.

Christopher R. Maret, M.D., 12408 Maret Dr., St. Louis 63127, has become a member of St. Louis Metropolitan Medical Society. Dr. Maret is a native of St. Louis, received his preliminary education at Johns Hopkins University and Washington University and his M.D. degree at Washington University in 1979. He specializes in internal medicine.

Robert E. McCormack, M.D., 3635 Walnut, Kansas City, 64111, has become a member of Jackson County Medical Society. Dr. McCormack is a native of Independence, Kan., received his preliminary education at Pittsburg State University and his M.D. degree at the University of Kansas in 1978. He specializes in internal medicine.

Jash I. Patel, M.D., 1664 Littleton Ct., Fenton 63026, has become a member of St. Louis Metropolitan Medical Society. Dr. Patel is a native of Lumbwa, Kenya, received his preliminary education at the University of Bombay and his M.D. degree at the University of Bombay in 1975. He specializes in diagnostic radiology.

Richard J. Rende, M.D., 1024-6 Rovena, St. Louis 63126, has become a member of St. Louis Metropolitan Medical Society. Dr. Rende is a native of Chicago, Ill., received his preliminary education at the University of Illinois and his M.D. degree at the University of Illinois in 1978. He specializes in orthopedic surgery.

Charles C. Roberts, M.D., 7640 Aberdeen, Shawnee Mission, Kan. 66208, has become a member of Jackson County Medical Society. Dr. Roberts is a native of Marion, Ohio, received his preliminary education at DePaul University and his M.D. degree at Chicago Medical School in 1975. He specializes in pediatric gastroenterology.

Karen D. Shockley, M.D., 1823 Hickory, St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Shockley is a native of Truth or Consequences, N. M., received her preliminary education at the University of New Mexico and her M.D. degree at the University of New Mexico in 1979. She specializes in general practice.

Kenneth A. Spaulding, M.D., 3229 E. 28th, Kansas City 64128, has become a member of Jackson County Medical Society. Dr. Spaulding is a native of Brooklyn, N. Y., received his preliminary education at Long Island University and his M.D. degree at MeHarry Medical College in 1977. He specializes in general surgery.

William D. Stahr, M.D., 2005 Sara, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Stahr is a native of St. Louis, received his preliminary education at Murray State University and his M.D. degree at the University of Kentucky in 1976. He specializes in pathology.

Ruenrudee Suwannasri, M.D., 138 N. Meramec Ave., Clayton 63105, has become a member of St. Louis Metropolitan Medical Society. Dr. Suwannasri is a native of Bangkok, Thailand, received his preliminary education at the Faculty of Science Chiangmai University and his M.D. degree at Chiangmai Medical School in 1973. He specializes in internal medicine.

Dixie J. Tooke, D.O., 220 Sunset, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Tooke is a native of Piedmont, received her preliminary education at Northeast Missouri State University and her D.O. degree at Kirksville College in 1980. She specializes in emergency medicine.

Lowell M. Weiner, M.D., 8627 Ash La., Shawnee Mission, Kan. 66207, has become a member of Jackson County Medical Society. Dr. Weiner is a native of Chicago, Ill., received his preliminary education at the University of Michigan and his M.D. degree at the University of Michigan in 1969. He specializes in pediatrics.

New Student Members

St. Louis University

Lynn S. Sudduth
David F. Wallace
Frederick C. Dicke
Lizbeth H. Didriksen
Elizabeth W. Diehl
Michael S. Flynn
Kent A. Hickey
Gary A. Maassen
Cornelios C. Maher
John C. Meyer
Josey M. Page, Jr.
Steven M. Radel
Charles L. Sorenson
Karen M. Wickline
William J. Will
W. Sherman Turnage
John A. Boullier
Gregory P. Burton
Martin E. Weinand

University of Missouri-Columbia

Craig Mohler
Bryan J. Treacy
Gregory V. Miller
Raymond L. Bandy
Maria E. Roehrs

University of Missouri-Kansas City

Elizabeth A. Dehner
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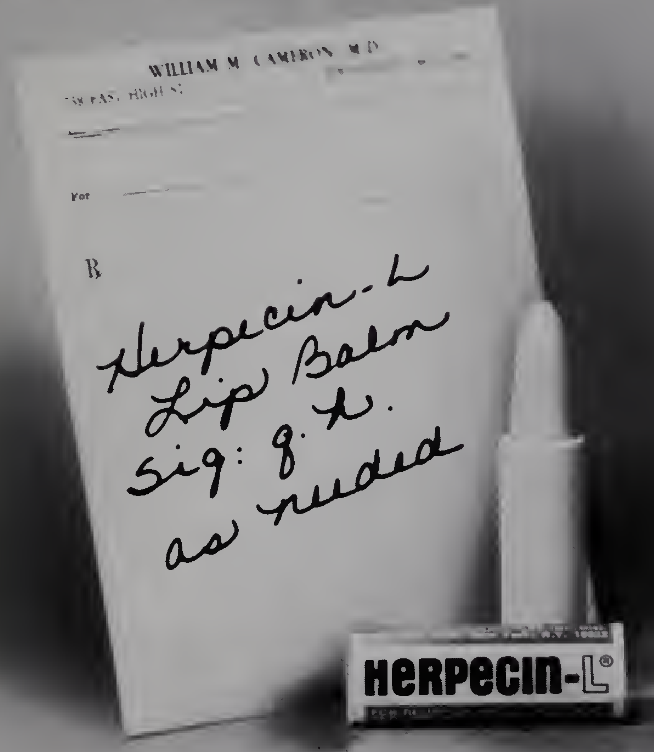

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in Brief

A summary of AMA, medical & health news

American Medical Association/535 North Dearborn Street/Chicago, Illinois 60610/Phone (312) 527-1500/TWX 910-221-0300

AN AVERAGE of 91.4% of patient care physicians had hospital admitting privileges in 1982 — a decline of 2.7% in five years, the AMA Socioeconomic Monitoring System reported. The medical and surgical specialties had the highest level of physicians with admitting privileges (97.4% and 97% respectively) and the least decline (0.3% and 1.9% respectively). Of physicians in general and family practice, 90.5% had admitting privileges — 2.2% less than in 1977.

MEDICAL SOCIETIES have organized local initiatives to meet the health care needs of people who have lost health benefits because of unemployment or changes in eligibility for Medicaid and Social Security disability programs, the AMA Department of Health Care Coalitions reported. A preliminary survey of medical societies in selected areas across the country found projects operated by Wayne County Medical Society, Detroit; Multnomah County Medical Society, Portland, Ore.; Marion-Polk County Medical Society, Salem, Ore.; Fort Wayne Medical Society, Indiana; Arlington County Medical Society, Virginia; King County Medical Society, Seattle, Wash.; Kankakee County Medical Society, Illinois; Jackson County Medical Society, Michigan; Guthrie Clinic, Sayre, Pa.; Iowa Medical Society; Winnebago County Medical Society, Rockford, Ill.; and American Society of Internal Medicine.

MEDICARE AND MEDICAID will use the AMA's *CPT-4* to launch a national coding and nomenclature system for reporting medical services. An agreement signed by the AMA and the Department of Health and Human Services give the Health Care Financing Administration unrestricted, royalty-free use of the AMA's copyrighted *Current Procedural Terminology* — 4th edition. The publication will become the basis for HCFA's new Common Procedure Coding System, which will replace a variety of codes currently being used by agents and contractors around the country. As Medicare contractors convert their claims processing systems, they will be required by HCFA to use the new code. About half of the states now use CPT-4 for their Medicaid programs, and it is expected that many more states will choose to follow suit. The AMA's executive vice-president said the agreement is the "culmination of ten years' work, five HEW/HHS secretaries, and four presidents of the U.S. It is a major step forward for practitioners, suppliers, and payers."

AMA LEADERS have met with top government officials in a continuing effort to keep open channels of communication with the Administration. Meeting with Attorney General William French Smith and Federal Trade Commission Chairman James Miller were AMA President William Y. Rial, M.D., Board of Trustees Chairman Joseph F. Boyle, M.D., and Executive Vice-President James H. Sammons, M.D. They reviewed the antitrust law as it relates to the professions, and conveyed medicine's concerns that overly restrictive interpretation of the law has adversely affected professional involvement in patient advocacy activities. In a meeting with Margaret Heckler, secretary-designate of the Department of Health and Human Services, the AMA officials discussed policy concerns. Participants said the meetings helped promote mutual understanding of issues. Areas of agreement were identified, as were areas in which differences of opinion need further discussion.

PACS MAKE a positive contribution to the American electoral system, Fred C. Rainey, M.D., chairman of the board of directors of the American Medical Political Action Committee (AMPAC), said in testimony before the Senate Committee on Rules and Administration. He pointed out that AMPAC serves as a means by which a large number of small contributors can pool their resources to participate more effectively in the political process. During 1982, AMPAC received contributions from more than 46,000 persons averaging about $30 each. "Contributions are not based on the candidates' stand on specific issues, and it is not uncommon for congressmen or senators who have received contributions from AMPAC to disagree with the AMA position on specific legislative issues," he said. Dr. Rainey noted that AMPAC is a bipartisan political committee that makes contributions to candidates of both major parties.

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Over a five-year period, ibuprofen was administered to 64 patients with known peptic ulceration and 42 with known gastric intolerance to other antiarthritis drugs.

Twenty-six patients remained in treatment, 23 left treatment following remission, and 35 dropped out for reasons unrelated to side effects. In this specially selected group of GI-intolerant patients, only 13 (12.3%) discontinued ibuprofen because of GI intolerance.

"Any drug used in the control of the symptoms of the chronic arthritis must be tolerated for long periods without undue gastric discomfort...From this study it appears that ibuprofen is eminently suitable."[8]

Peptic ulceration and GI bleeding, sometimes severe, have been reported. Rufen® should be given under close supervision to patients with a history of upper GI tract disease.

References: 1. Royer GL, Jr, Moxley TE, Hearron MS, et al: *J Int Med Res* 3:158-171, 1975. 2. Royer, GL, Jr, Moxley TE, Hearron MS, et al: *Curr Therap Res* 17:234-248, 1975. 3. Brackertz B, Busson M: *Brit J Clin Pract* 32:77-80, 1978. 4. Tausch J, Fasching U: *Brit J Clin Pract: A symposium supplement, IXTH European Congress of Rheumatology,* Wiesbaden, Germany, Sept 2-8, 1979, pp 53-61. 5. Lanza FL, Royer GL, Jr, Nelson RS et al: *Dig Dis & Sci* 24:823-828, 1979. 6. Pavelka K, Susta A, Vojtisek A et al: *Rheumatol and Rehab* 12:68-73, 1973. 7. Tretenhahn W: *Brit J Clin Pract: A symposium supplement, IXTH European Congress of Rheumatology,* Wiesbaden, Germany, Sept 2-8, 1979, pp 45-52. 8. Cardoe N: Curr Med Res & Opinion 3:518-520, 1975.

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INDICATIONS AND USAGE: Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in the long-term management of these diseases. Safety and effectiveness have not been established for Functional Class IV rheumatoid arthritis

Relief of mild to moderate pain. Treatment of primary dysmenorrhea.

CONTRAINDICATIONS: Patients hypersensitive to ibuprofen, or with the syndrome of nasal polyps, angio-edema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory drugs (see WARNINGS).

WARNINGS: Anaphylactoid reactions have occurred in patients hypersensitive to aspirin (see CONTRAINDICATIONS). Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Peptic ulceration, perforation, or gastrointestinal bleeding can end fatally, however, an association has not been established. Rufen should be given under close supervision to patients with a history of upper gastrointestinal tract disease, and only after consulting the ADVERSE REACTIONS

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be attempted. If Rufen must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding

PRECAUTIONS: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If developed, discontinue Rufen and administer an ophthalmologic examination.

Fluid retention and edema have been associated with Rufen, caution should be used in patients with a history of cardiac decompensation.

Rufen can inhibit platelet aggregation and prolong bleeding time. Use with caution in patients with intrinsic coagulation defects and those taking anticoagulants

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy, this therapy should be tapered slowly when adding Rufen.

DRUG INTERACTION: *Coumarin-type anticoagulants.* The physician should be cautious when administering Rufen to patients on anticoagulants.

Aspirin Concomitant use may decrease Rufen blood levels

PREGNANCY AND NURSING MOTHERS: Rufen should not be taken during pregnancy nor by nursing mothers.

ADVERSE REACTIONS: Incidence greater than 1%. Gastrointestinal: The most frequent adverse reaction is gastrointestinal (4 to 16%). Includes nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence). Central Nervous System: dizziness*, headache, nervousness. Dermatologic: rash* (including maculopapular type), pruritus. Special Senses: tinnitus. Metabolic: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).
*Incidence 3% to 9%.

Incidence less than 1 in 100. Gastrointestinal: gastric or duodenal ulcer with bleeding and/or perforation, hemorrhage, melena. Central Nervous System: depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma. Dermatologic: vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome and alopecia. *Special Senses* hearing loss, amblyopia (blurred and/or diminished vision, scotomata and/or changes in color vision) [see PRECAUTIONS]. Hematologic: neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs' positive), thrombocytopenia with or without purpura eosinophilia, decreases in hemoglobin and hematocrit. Cardiovascular: congestive heart failure in patients with marginal cardiac function, elevated blood pressure. Allergic: syndrome of abdominal pain, fever, chills, nausea and vomiting, anaphylaxis, bronchospasms (see CONTRAINDICATIONS). Renal: acute renal failure in patients with preexisting significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria. Miscellaneous: dry eyes and mouth, gingival ulcers, rhinitis.

Causal relationship unknown. Gastrointestinal: pancreatitis. Central Nervous System: paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri. Dermatologic: toxic epidermal necrolysis, photoallergic skin reactions Special Senses: conjunctivitis, diplopia, optic neuritis Hematologic: bleeding episodes. Allergic: serum sickness, lupus erythematosus syndrome, Henoch-Schonlein vasculitis. Endocrine: gynecomastia, hypoglycemia Cardiovascular: arrhythmias (sinus tachycardia, bradycardia, and palpitations). Renal: renal papillary necrosis.

OVERDOSAGE: Acute overdosage, the stomach should be emptied Rufen is acidic and excreted in the urine, alkaline diuresis may benefit.

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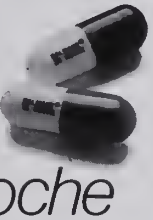

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- Studied extensively in the sleep laboratory—the most valid environment for measuring hypnotic efficacy.[1-12]
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- Contraindicated in patients who are pregnant or hypersensitive to flurazepam.
- Caution patients about drinking alcohol, driving or operating hazardous machinery during therapy.

References: 1. Kales A *et al: J Clin Pharmacol 17*:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **3.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **4.** Kales A *et al: JAMA 241*:1692-1695, Apr 20, 1979. **5.** Kales A, Scharf MB, Kales JD: *Science 201*:1039-1041, Sep 15, 1978. **6.** Kales A *et al: Clin Pharmacol Ther 19*:576-583, May 1976. **7.** Kales A, Kales JD: *Pharmacol Physicians 4*:1-6, Sep 1970. **8.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **9.** Dement WC *et al: Behav Med 5*:25-31, Oct 1978. **10.** Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **11.** Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. **12.** Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. **13.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

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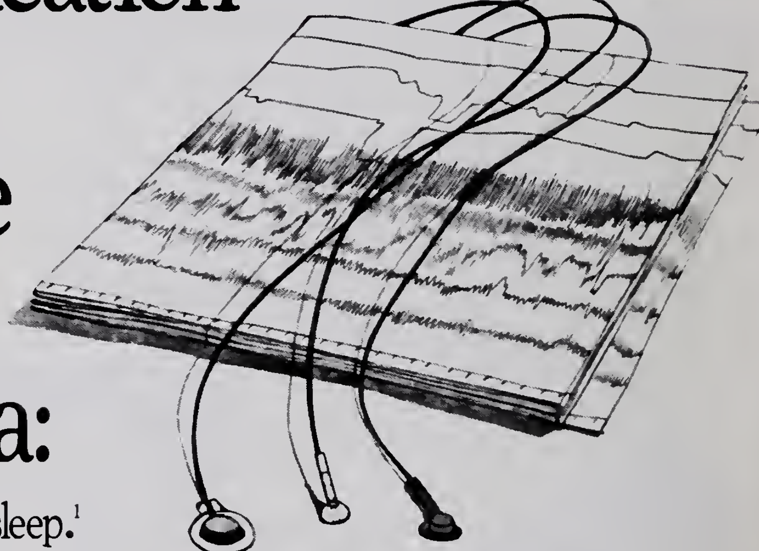

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Missouri Medicine

Vol. 80, No. 5 (ISSN 0026-6620) May, 1983

Special Review Article

Bacterial Enteritis

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"Anybody For Martyrdom?"

MISSOURI STATE MEDICAL ASSOCIATION

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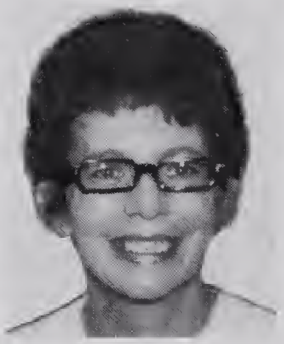

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May 1983

PROGRESS NOTES

missouri state medical association

Prospective Pricing Approved for DRGs

A final version of a Medicare hospital payment program based on diagnosis related groups (DRGs) was approved by both Houses of Congress in March and is expected to be signed by President Reagan. The prospective pricing provisions were passed as a part of H.R. 1900, the Social Security Act Amendments of 1983. The measure also contemplates future consideration of the possible extension of DRGs to physician charges for inpatient hospital services if studies mandated under the bill show that such an extension is "advisable and feasible."

As originally proposed by the Administration, the system would have established a single national payment rate for each of 467 DRGs. Payment to the hospital would be payment in full with beneficiaries only responsible for deductibles and coinsurance.

Under the bill approved by Congress:

- DRG payments would be phased in over three years, beginning with the hospital's first cost reporting period after October 1, 1983. In the first year, 25% of the payment would be based on DRG rates and 75% on the hospital's cost base. The percentage of the payment based on DRGs would gradually increase until it reached 100% in the fourth year.
- In the first year, the DRG portion of the payment would be a regional rate. A rural and an urban rate would be calculated for each of nine regions. In the second and third years, the DRG portion would be a blend of national and regional rates and by the fourth year, the 18 regional rates would give way to two national rates — one urban, one rural.
- Rates in 1984 and 1985 would be adjusted by the marketbasket index of hospital costs plus 1%, but they would be reduced to the extent this resulted in payments exceeding those that would have applied under the Tax Equity and Fiscal Responsibility Act targets.
- Beginning in 1986, the increase factor would be determined by the Secretary of HHS and reviewed by a 15-member Commission appointed by the Office of Technology Assessment. The Commission

see Medicare, page 2

JCAH Revisions Outlined for Medical Staff Chapter

In response to the reaction from AMA membership over proposed revisions in the Medical Staff chapter of the Joint Commission on Accreditation of Hospitals' *Accreditation Manual for Hospitals,* the AMA Board of Trustees, on April 8, confirmed a March 22 action of the AMA Commissioners to the JCAH. The action outlined a set of principles for inclusion in future drafts of the Medical Staff chapter. The principles are:

- Continue the use of the term "Medical Staff" in the title of the chapter and throughout the manual;
- Delete references to dentists, podiatrists, oral surgeons, and other limited licensened practitioners in the Medical Staff chapter;
- Ensure access for limited licensed practitioners:
- Require greater than a majority of fully licensed physician membership on the Medical Staff executive committee in acute care general hospitals;
- Provide for exceptions to the above requirement in other hospitals; and
- Ensure that all hospitalized patients receive the same standard of care through appropriate language relating to admissions and the responsibility for the medical care of patients.

Marketing Strategies Workshop Scheduled

Private medical practice in the United States is changing dramatically. Competition is increasing. New trends in health care are emerging.

In order to have a successful practice today, a physician needs more than just good medical knowledge; he needs good marketing strategies as well.

Realizing this, the Missouri State Medical Association and the American Medical Association are sponsoring a workshop, "Marketing Strategies for Private Practice," to help the physician position his practice and to prepare him to take advantage of the rapid and numerous changes in the delivery of medical care.

The one-day workshop will be held Friday, August 12, 1983, at the Breckenridge Concourse Hotel in St. Louis.

The workshop will be conducted by professionals on the staff of the AMA Department of Practice Manage-

see Workshop, page 2

Public Image of Physicians Improves

Americans hold much more positive views toward their own physicians than toward physicians in general, according to a recent study released by the AMA.

The study, conducted in 1982, is similar to a public opinion survey which the AMA commissioned in 1955. Many of the dimensions measured in the 1955 survey were also examined in the 1982 study, thus allowing a comparison of public views toward physicians spanning almost thirty years.

The following table presents findings from the 1982 survey on the public image of physicians and shows comparative results of questions included in the 1955 study.

	% Agree	
	1955	1982
Doctors' fees are usually reasonable.	57	42
Your personal physician is available in an emergency.	81	81
Most doctors spend enough time with their patients.	30	46
Doctors are too interested in making money.	38	60
Doctors act like they're better than other people.	25	33
Most doctors take a genuine interest in their patients.	54	68
Most doctors are genuinely dedicated to helping people.	73	80

Dr. Slickman Dies At Age 58

Robert A. Slickman, M.D., one of the Missouri State Medical Association's delegates to the American Medical Association, died April 20 at the age of 58.

Dr. Slickman, Kansas City, was first elected to serve as AMA delegate in 1975 and was re-elected in 1977, 1979, 1981 and most recently in March, 1983. He served as Speaker of the MSMA House of Delegates prior to becoming an AMA delegate.

He was also a member of the American College of Obstetricians and Gynecologists and the Central Association of Obstetrics and Gynecology.

Workshop Topics Include Positioning and Pricing

continued from page 1

ment. All are experienced educators in medical practice management and conduct educational programs nationwide for physicians, office managers and medical assistants.

Presentations by the faculty will be followed by group discussions. Case studies will also be used and ample time will be set aside for questions about specific situations.

The workshop program includes segments on marketing, positioning, maximizing patient satisfaction, pricing services, choosing the right location, increasing practice visibility, expanding referral services and increasing availability to patients.

To ensure that everyone has an opportunity to participate in the group discussions, enrollment has been limited to 50 physicians. The fee for MSMA members is $100; the fee for non-members is $135. The fee includes a continental breakfast, two refreshment breaks, lunch, and a 90-page workbook which serves as a valuable reference.

To enroll, send your name and check to the Missouri State Medical Association, P.O. Box 1028, Jefferson City, Missouri 65102.

Medicare Will Not Pay Without PRO Review

continued from page 1

is to include representatives of a wide range of groups, including physicians. Based on its evaluation of new practices, including new technology and treatments, the Commission is to recommend changes in the recalibration of the DRG classifications.

- Direct medical education expenses would continue to be paid on a cost basis and the current Section 223 adjustment for indirect medical education expenses would be doubled in the DRG system.
- Capital costs incurred before the system takes effect will continue to be reimbursed on a reasonable cost basis until October 1, 1986. New capital costs may or may not be paid on a reasonable cost basis. States would be required to have Section 1122 review systems, and Medicare reimbursement for new capital costs would be conditioned on 1122 approval. The maximum threshold the state may use for requiring an 1122 review is increased from $100,000 to $600,000.
- Return on equity for proprietary hospitals would be reduced.
- Certain types of institutions would be exempt from the DRG system.
- From now until October 1, 1983, hospitals are required to contract with a PRO to monitor utilization if there is a PRO in the area. After October 1, the hospital is required to contract with a PRO and cannot be paid by Medicare if a PRO review is not performed. Intermediaries will be allowed to participate in the PRO program by October 1, 1984 at the latest.

1983 MMPAC Sustaining Members

The Missouri Medical Political Action Committee, MMPAC, is a voluntary committee of Missouri physicians and spouses who contribute funds to aid in the election of Missouri candidates for the General Assembly and congressional candidates whose philosophy is similar to that of the medical profession. Listed below are MSMA and Auxiliary members who have paid $100 to become Sustaining Members of MMPAC.

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Order enough surveys for your practice and encourage your patients to fill them out. The most worthwhile result of the survey can be the honest and helpful feedback you receive from your patients after you have openly encouraged them to respond.

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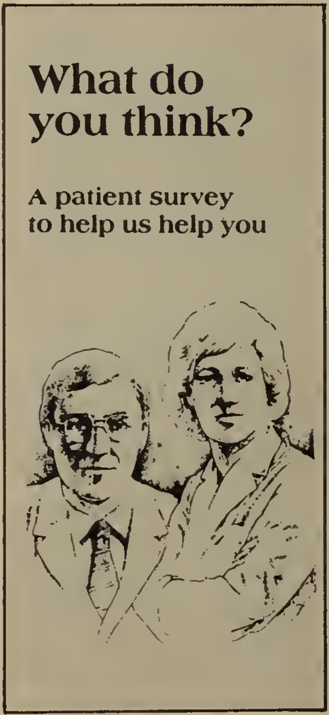

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A pathologic partnership one sees every day

Pain—triggering anxiety—which accentuates the perception of pain...together they're worse than either alone. And since they're usually both present in musculoskeletal disorders, the best therapy is often a combination of analgesic and anxiolytic agents. Equagesic ®-M combines the pain relief of aspirin with the tension-reducing properties of meprobamate—because together they're better than either alone.

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(meprobamate with aspirin) Ⓒ Wyeth

Effective analgesic/anxiolytic alliance

Proven superior to aspirin alone in controlled clinical trials

(BRIEF SUMMARY)
DESCRIPTION: Each tablet contains 200 mg meprobamate and 325 mg aspirin.
INDICATIONS: Adjunct in short-term treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease. Clinical trials demonstrated in these situations relief of pain is somewhat greater than with aspirin alone Effectiveness in long-term use, i e. over 4 months, has not been assessed by systematic clinical studies Physicians should periodically reassess usefulness of drug for individual patients
CONTRAINDICATIONS: ASPIRIN · Allergic or idiosyncratic reactions to aspirin or related compounds MEPROBAMATE. Acute intermittent porphyria; allergic or idiosyncratic reactions to meprobamate or related compounds, e g carisoprodol, mebutamate, or carbromal
WARNINGS: ASPIRIN Use salicylates with extreme caution in patients with peptic ulcer, asthma, coagulation abnormalities, hypoprothrombinemia, vitamin K deficiency, or those on anticoagulants In rare instances, aspirin in persons allergic to salicylates may result in life-threatening allergic episodes.
MEPROBAMATE DRUG DEPENDENCE Physical and psychological dependence, and abuse have occurred Chronic intoxication from prolonged ingestion of, usually, greater than recommended doses is manifested by ataxia, slurred speech, and vertigo, Therefore, carefully supervise dose and amounts prescribed and avoid prolonged use, especially in alcoholics and others with known propensity for taking excessive quantities of drugs Sudden withdrawal after prolonged and excessive use may precipitate recurrence of preexisting symptoms, e g anxiety, anorexia, or insomnia, or withdrawal reactions, e g , vomiting, ataxia, tremors, muscle twitching, confusional states, hallucinosis, and, rarely, convulsive seizures Such seizures are more likely in persons with CNS damage or preexistent or latent convulsive disorders Onset of withdrawal symptoms occurs usually within 12 to 48 hours after discontinuation; symptoms usually cease within next 12-to-48-hour period When excessive dosage has continued for weeks or months, reduce dosage gradually over 1 to 2 weeks rather than stop abruptly Alternatively, a short-acting barbiturate may be substituted, then gradually withdrawn
POTENTIALLY HAZARDOUS TASKS Warn patients meprobamate may impair mental or physical abilities required for potentially hazardous tasks, e.g , driving or operating machinery
ADDITIVE EFFECTS Since CNS-suppressant effects of meprobamate and alcohol or meprobamate and other psychotropic drugs may be additive, exercise caution with patients taking more than one of these agents simultaneously
USAGE IN PREGNANCY AND LACTATION: An increased risk of congenital malformations associated with minor tranquilizers (meprobamate, chlordiazepoxide, and diazepam) during first trimester of pregnancy, has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of childbearing potential may be pregnant at time of institution of therapy should be considered. Advise patients if they become pregnant during therapy or intend to become pregnant to communicate with their physicians about desirability of discontinuing the drug.
Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breastfeeding patients, consider the drug's higher concentrations in breast milk as compared to maternal plasma levels.
USAGE IN CHILDREN Keep preparations with aspirin out of reach of children Equagesic®-M is not recommended for patients 12 years of age and under
PRECAUTIONS: ASPIRIN. Salicylates antagonize uricosuric activity of probenecid and sulfinpyrazone. Salicylates are reported to enhance hypoglycemic effect of sulfonylurea antidiabetics
MEPROBAMATE. Use lowest effective dose, particularly in elderly and/or debilitated, to preclude over-sedation. Meprobamate is metabolized in the liver and excreted by the kidney; to avoid excess accumulation exercise caution in its use in patients with compromised liver or kidney function Meprobamate occasionally may precipitate seizures in epileptic patients It should be prescribed cautiously and in small quantities to patients with suicidal tendencies
ADVERSE REACTIONS: ASPIRIN May cause epigastric discomfort, nausea, and vomiting. Hypersensitivity reactions, including urticaria, angioneurotic edema, purpura, asthma, and anaphylaxis may rarely occur Patients receiving large doses of salicylates may develop tinnitus
MEPROBAMATE CNS: Drowsiness, ataxia, dizziness, slurred speech, headache, vertigo, weakness, paresthesias, impairment of visual accommodation, euphoria, overstimulation, paradoxical excitement, fast EEG activity
GI Nausea, vomiting, diarrhea.
CARDIOVASCULAR · Palpitation, tachycardia, various forms of arrhythmia, transient ECG changes, syncope, hypotensive crisis
ALLERGIC OR IDIOSYNCRATIC Milder reactions are characterized by itchy, urticarial, or erythematous maculopapular rash, generalized or confined to the groin. Other reactions include leukopenia, acute nonthrombocytopenic purpura, petechiae, ecchymoses, eosinophilia, peripheral edema, adenopathy, fever, fixed drug eruption with cross-reaction to carisoprodol, and cross-sensitivity between meprobamate/mebutamate and meprobamate/carbromal. Rare, more severe hypersensitivity reactions include hyperpyrexia, chills, angioneurotic edema, bronchospasm, oliguria, and anuria Also, anaphylaxis, exfoliative dermatitis, stomatitis, and proctitis Stevens-Johnson syndrome and bullous dermatitis have occurred
HEMATOLOGIC (SEE ALSO "ALLERGIC OR IDIOSYNCRATIC") Agranulocytosis, aplastic anemia have been reported, although no causal relationship has been established, and thrombocytopenic purpura
OTHER Exacerbation of porphyric symptoms
DOSAGE AND ADMINISTRATION: Usual dose is one or two tablets, 3 to 4 times daily as needed for relief of pain when tension or anxiety is present Not recommended for patients 12 years of age and under
OVERDOSAGE: Treatment is essentially symptomatic and supportive Any drug remaining in the stomach should be removed Induction of vomiting or gastric lavage may be indicated Activated charcoal may reduce absorption of both aspirin and meprobamate. Aspirin overdosage produces usual symptoms and signs of salicylate intoxication. Observation and treatment should include management of hyperthermia, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions Suicidal attempts with meprobamate have resulted in drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Some suicidal attempts have been fatal The following data, reported in the literature and from other sources, are not expected to correlate with each case (considering factors such as individual susceptibility and length of time from ingestion to treatment), but represent usual ranges reported. Acute simple overdose (meprobamate alone). Death has been reported with ingestion of as little as 12 gram meprobamate and survival with as much as 40 gram
BLOOD LEVELS:
0.5-2 0 mg percent represents usual blood-level range after therapeutic doses. The level may occasionally be as high as 3 0 mg percent
3-10 mg percent usually corresponds to findings of mild-to-moderate symptoms of overdosage, such as stupor or light coma.
10-20 mg percent usually corresponds to deeper coma, requiring more intensive treatment. Some fatalities occur.
At levels greater than 20 mg percent, more fatalities than survivals can be expected.
Acute combined overdose (meprobamate with other psychotropic drugs or alcohol): Since effects can be additive, history of ingestion of a low dose of meprobamate plus any of these compounds (or of a relatively low blood or tissue level) cannot be used as a prognostic indicator
In cases of excessive doses, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels Any drug remaining in stomach should be removed and symptomatic treatment given. Should respiration or blood pressure become compromised, respiratory assistance, CNS stimulants, and pressor agents should be administered cautiously as indicated Diuresis, osmotic (mannitol) diuresis, peritoneal dialysis, and hemodialysis have been used successfully in removing both aspirin and meprobamate Alkalinization of the urine increases excretion of salicylates. Careful monitoring of urinary output is necessary, and caution should be taken to avoid overhydration.
Relapse and death, after initial recovery, have been attributed to incomplete gastric emptying and delayed absorption
HOW SUPPLIED: Bottles of 50 scored tablets

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Brief Prescribing Information

CONTRAINDICATIONS: Patients with severe hypertension, severe coronary artery disease, and in patients on MAO inhibitor therapy, narrow-angle glaucoma, urinary retention, peptic ulcer, during an asthmatic attack.

Hypersensitivity: Contraindicated in patients with hypersensitivity or idiosyncrasy to sympathomimetic amines or phenanthrene derivatives.

Nursing Mothers: Contraindicated because of the higher than usual risk for infants from sympathomimetic amines.

WARNINGS: Use judiciously and sparingly in patients with hypertension, diabetes mellitus, ischemic heart disease, increased intraocular pressure, hyperthyroidism, or prostatic hypertrophy. May produce CNS stimulation and convulsions or cardiovascular collapse with accompanying hypotension.

Use with caution in patients with increased intraocular pressure, cardiovascular disease, hypertension or in patients with a history of bronchial asthma. Do not exceed recommended dose.

Use in Elderly: The elderly (60 years and older) are more likely to have adverse reactions to sympathomimetics. Overdosage in this age group may cause hallucinations, convulsions, CNS depression and death.

PRECAUTIONS: *General:* Should be used with caution in patients with diabetes, hypertension, cardiovascular disease and hyperreactivity to ephedrine. The antihistaminic may cause drowsiness and ambulatory patients who operate machinery or motor vehicles should be cautioned accordingly.

Information for Patients: Antihistamines may impair mental and physical abilities required for the performance of potentially hazardous tasks, such as driving a vehicle or operating machinery, and mental alertness in children.

Drug Interactions: MAO inhibitors and beta adrenergic blockers increase the effect of sympathomimetics. Sympathomimetics may reduce the antihypertensive effects of methyldopa, mecamylamine, reserpine and veratrum alkaloids. Concomitant use of antihistamines with alcohol, tricyclic antidepressants, barbiturates and other CNS depressants may have an additive effect.

Pregnancy Category C: Animal reproduction studies have not been conducted with NOVAFED A capsules. It is also not known whether NOVAFED A capsules can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. NOVAFED A capsules may be given to a pregnant woman only if clearly needed.

Nursing Mothers: Pseudoephedrine is contraindicated in nursing mothers because of the higher than usual risk for infants from sympathomimetic amines.

ADVERSE REACTIONS: Hyperreactive individuals may display ephedrine-like reactions such as tachycardia, palpitations, headache, dizziness, or nausea. Patients sensitive to antihistamines may experience mild sedation. Sympathomimetic drugs have been associated with certain untoward reactions including fear, anxiety, tenseness, restlessness, tremor, weakness, pallor, respiratory difficulty, dysuria, insomnia, hallucinations, convulsions, CNS depression, arrhythmias, and cardiovascular collapse with hypotension.

Possible side effects of antihistamines are drowsiness, restlessness, dizziness, weakness, dry mouth, anorexia, nausea, headache, nervousness, blurring of vision, heartburn, dysuria and very rarely dermatitis. Patient idiosyncrasy to adrenergic agents may be manifested by insomnia, dizziness, weakness, tremor or arrhythmias.

OVERDOSAGE: Acute overdosage with NOVAFED A capsules may produce clinical signs of CNS stimulation and variable cardiovascular effects. Pressor amines should be used with great caution in the presence of pseudoephedrine. Patients with signs of stimulation should be treated conservatively.

DOSAGE AND ADMINISTRATION: One capsule every 12 hours. Do not give to children under 12 years of age.

CAUTION: Federal law prohibits dispensing without prescription.

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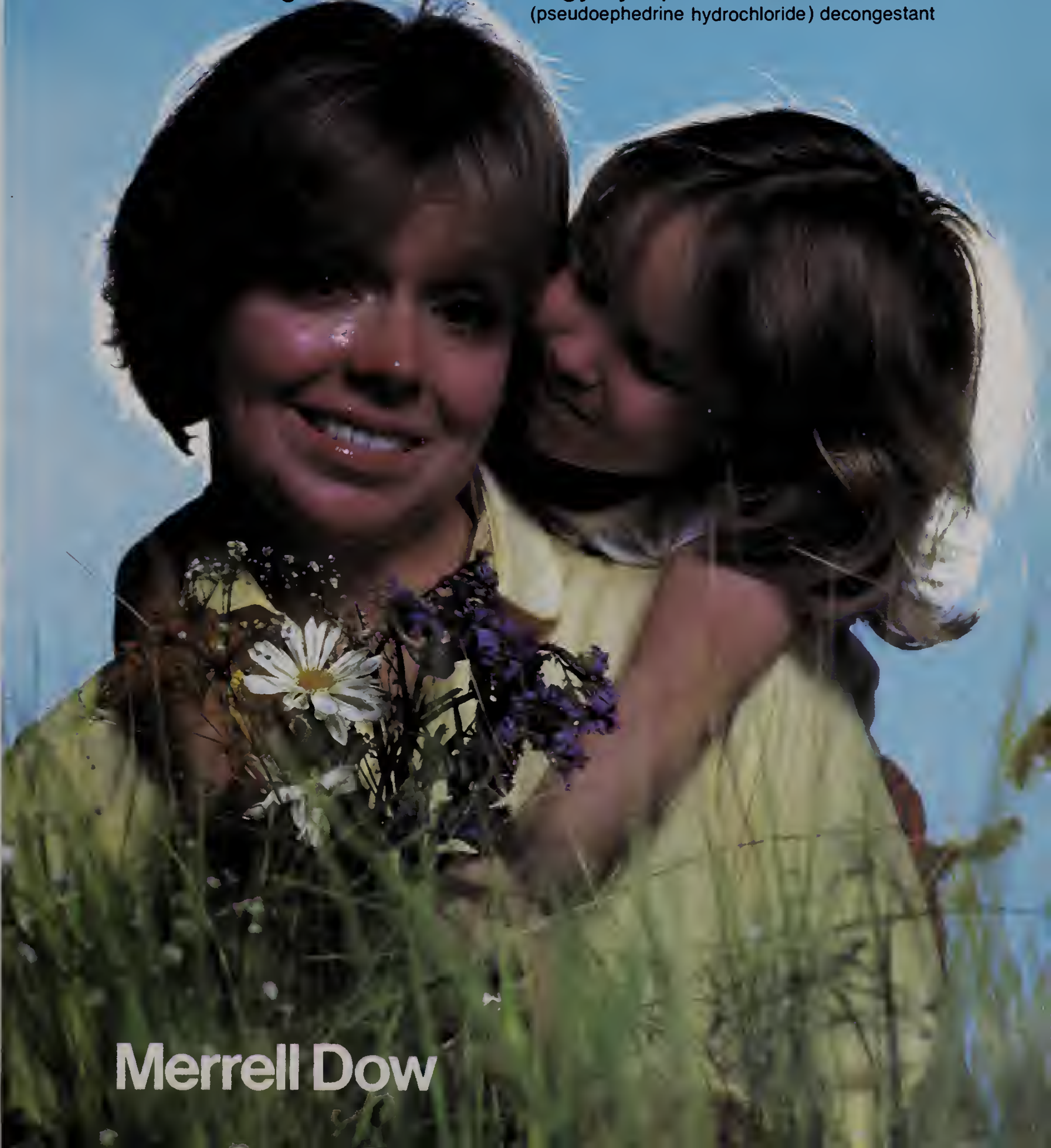

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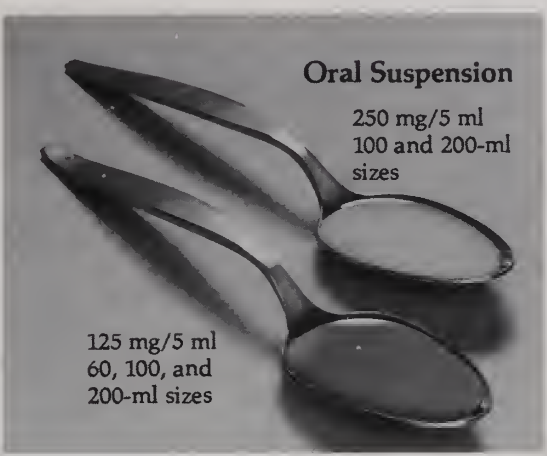

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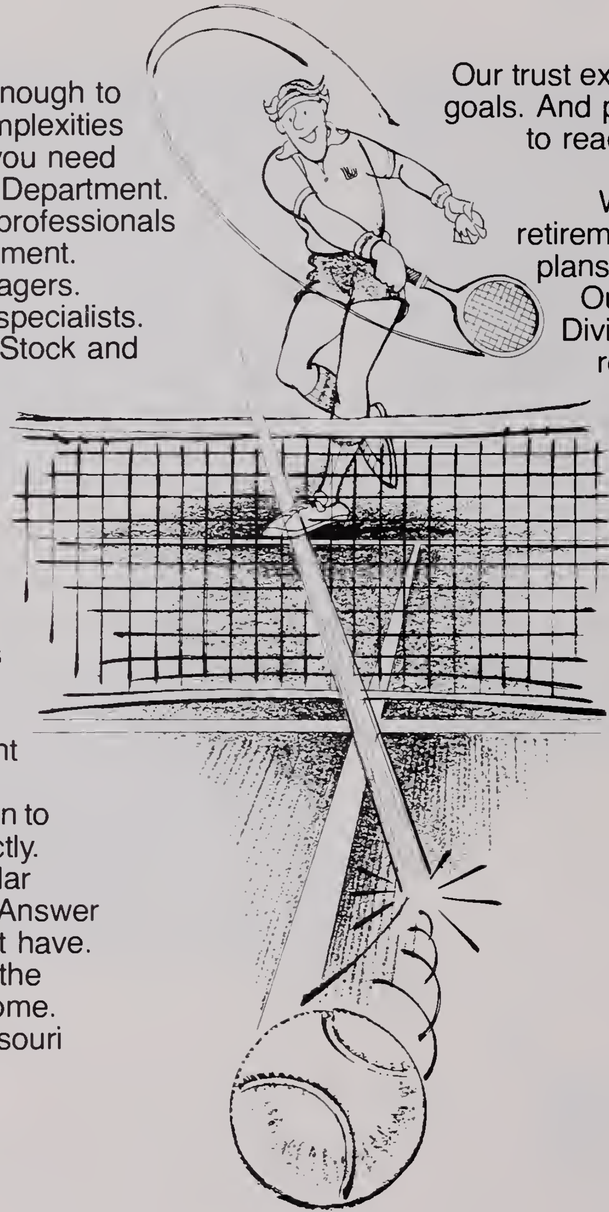

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Editor's Corner

ANYBODY FOR MARTYRDOM?

Martyrs are usually thought of as brave people of old who were thrown into lions' dens, or some other appropriate place, for their beliefs. Could a doctor be a martyr today? No problem.

How about committing oneself in print or in public when a water fluoridation decision counts in the community? Professionals who did so in one Missouri city recently were labeled as "victims of their education" in rebuttals in the daily press. "They have taken lessons from politicos whom we accuse of corruption and glory seeking." There is an increasing intelligence gap in our society, wedged out further by the knowledge explosion, that puts many of our advances beyond the comprehension of a great portion of our citizenry and puts any physician or other advocate of scientific reason at peril.

Consider being a member of a professional regulatory board, such as the State Board of Healing Arts, Pharmacy, Dentistry or the like. To his own peers, such a person has sold out to the State, is suspected of being a drinking friend of the governor's, and probably plays footsie with consumer advocates on the board. To the public, he's put there to protect the interests of the profession he represents and the "public be damned." One thing a regulatory member won't get at the end of his term, a Jefferson City veteran recently noted, is a big testimonial dinner.

Martyrdom can be sought out in many ways. Standing up and yelling "foul" the next time a paramedic group gets too pushy may leave a physician standing alone. Declaring out loud that nurses are not as thoroughly trained medically as doctors, just to set the record straight when a patient's well-being is affected, is usually good for a number of non-Brownie points. Holding firm for one's own belief in a medical-legal stand off may pit a doctor against his insurers, legal counsel and peers — guaranteed paranoia. Admitting poor results from one's possibly unique treatment methodology may cause some soul suffering, but may also be of great help to our colleagues. There is always the possibility of letting it be known that some doctors' fees are too high — this should guarantee you a table all to yourself at the next county medical society dinner.

For most of us, avoidance of any and all situations such as mentioned above is part of our working philosophy. On occasion, however, controversial problems need to be met, the truth as we know it told in a loud voice, and the risk of being unpopular, if not actually crucified, faced. Medical practice is constantly changing. The public's concept of the medical world has to change; sometimes change is fraught with much misunderstanding and apprehension on the part of the public. The physicians are on the front line of this situation — right where there is plenty of opportunity to take a stand, speak one's mind on behalf of medicine, and run the risk of being at least a minor martyr. This might not be as safe as merely sitting behind the desk and passing out pills, but it can be much more interesting.

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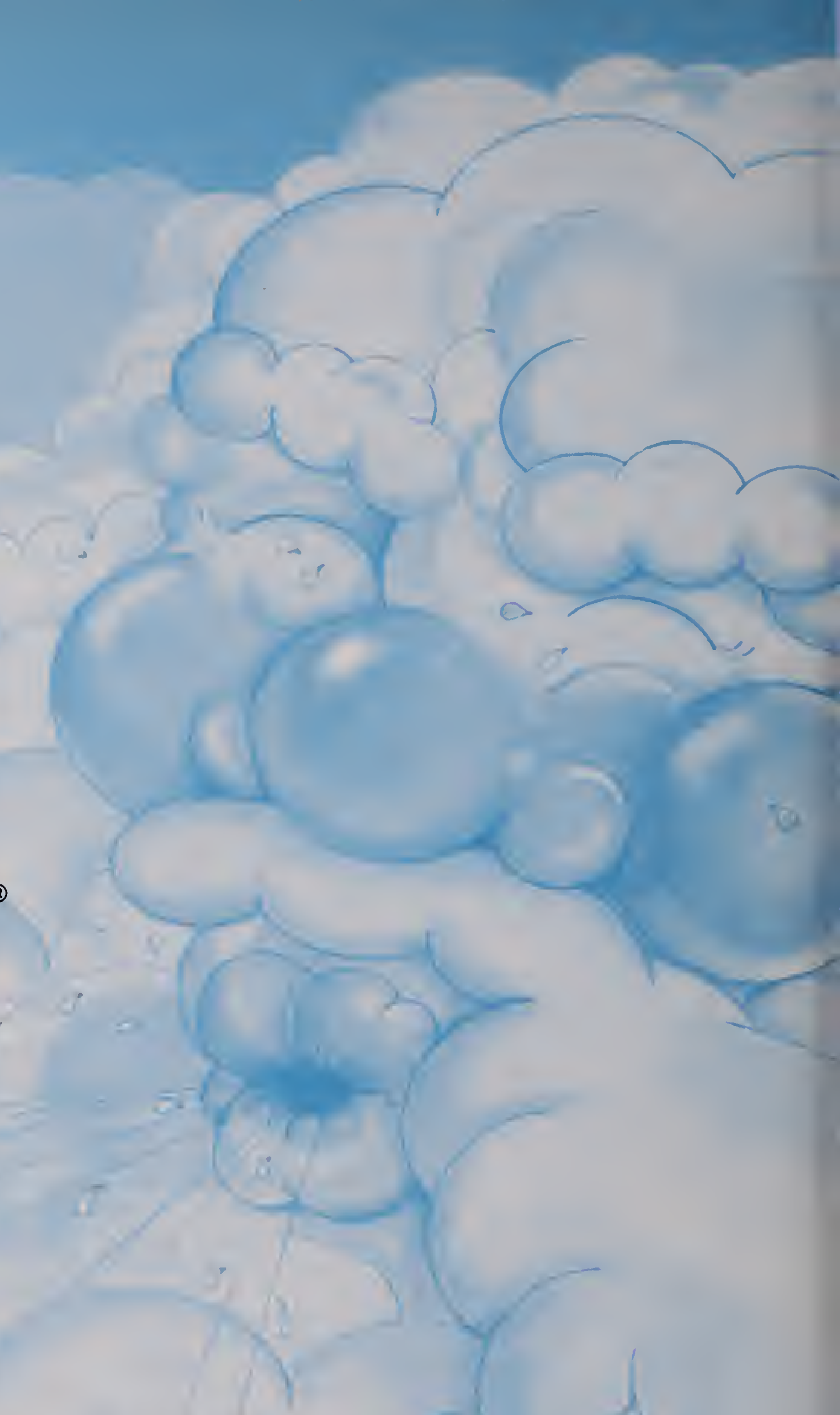

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Brief Summary of prescribing information

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Volume 80, Number 5 — May, 1983

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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Special Review Article

DONALD P. MILLER, M.D. *and*
E. DALE EVERETT, M.D., *Columbia*

Bacterial Enteritis

Acute infectious diarrheal illness is the leading cause of disease and death in many areas of the world. During 1977, there were approximately 3 billion to 5 billion cases of diarrhea accounting for 5 million to 10 million deaths in Asia, Africa and Latin America.[1] It has been estimated that each primary care physician in North America encounters 200 cases of acute gastroenteritis each year.[2] Among illnesses affecting families, acute gastroenteritis was second only to the common cold.[3]

This review presents a summary of the incidence of bacterial causes of acute diarrhea, the major clinical manifestations of specific bacterial pathogens and the results of a stool culture survey performed at the University of Missouri-Columbia Health Sciences Center. It also describes a clinical approach to the diagnosis and treatment of bacterial diarrheas.

Causes of Acute Diarrhea

Obtaining a specific diagnosis for the causes of diarrheal illness is currently unsatisfactory. Even with intensive efforts directed toward diagnosis, only about 60% of patients who develop acute diarrhea have an etiologic agent discovered.[4] In large surveys, approximately 20% of cases are caused by rotavirus, 3% are attributed to mixed infections, 2% are due to *Giardia lamblia*, and less than 1% are secondary to *E. histolytica*. Bacterial pathogens are identified in approximately one third of the cases. In clinical practice, only 10% to 20% of all patients have a specific bacterial pathogen identified in the stool.

In North America, authors in four large studies have attempted to identify the relative importance of bacteria as etiologic agents in acute diarrhea. The results of these surveys are presented in Table 1.[5-8] Isolation of a bacterial cause ranged from 11% to 47% with the distribution of organisms varying with cultural techniques, population studied and, perhaps, geographic area. In this report, we present the results of a stool culture survey made at the University of Missouri-Columbia Health Sciences Center.

Pathogenesis

Despite the presence of bacterial pathogens causing gastroenteritis being frequent in the environment, clinical illness is uncommon. In the

Acute gastroenteritis is one of the most common illnesses seen by primary care physicians. Among illnesses affecting families, it is second only to the common cold. In this review, the authors describe major clinical manifestations of this illness due to specific bacterial pathogens and provide a clinical approach to the diagnosis and treatment of bacterial diarrhea. They also discuss the results of a stool culture survey made at the University of Missouri-Columbia Health Sciences Center.

Dr. Miller is a Fellow in Infectious Diseases and Dr. Everett is Professor of Medicine and Chief of the Division of Infectious Diseases at the Health Sciences Center.

TABLE 1
BACTERIAL ETIOLOGIES OF ACUTE DIARRHEA IN NORTH AMERICA

	Nelson[5] (1971)	*Pickering[6] (1971)*	*Gurwith[7] (1977)*	*Blaser[8] (1979)*
Total patients	144	249	1200	514
Shigella	47(33)*	35(14)	144(12)	13(2.5)
Salmonella	5(3.5)	11(4.4)	24(2)	19(3.7)
E. coli (all types)	15(10.4)	35(14)	123(10)	N.T.
Campylobacter	N.T.†	N.T.	N.T.	26(5.0)
Total Bacterial Isolates	67(47)	81(32.5)	291(24)	58(11.3)

* ( ) percentages. †N.T. — Not Tested.

United States, the low level of clinical illness is undoubtedly related to a generally high level of sanitation and, in addition, most pathogenic agents require a large inocculum to produce illness. Furthermore, in the normal host, highly effective defense mechanisms are operative, such as gastric acidity, gut motility, surface immunoglobulins and resident flora of the gut.[9]

The currently accepted pathogenic mechanisms of bacterial enteritis include toxin production and invasion.[10] Bacterial toxins may be formed outside the body and ingested, e.g., staphylococcal enterotoxins, or they may be produced in the lumen of the gut after ingestion, e.g., the toxin of *Clostridium perfringens*. Diarrheas produced by toxins generally have their greatest impact on the small intestine and are manifested by large volume, watery diarrhea. In contrast, invasive agents more frequently involve the colon with variable penetration from the gut epithelium only to transmural involvement with bacteremia. Stools are usually small volume and often mucoid to bloody. Furthermore, invasive agents often evoke an inflammatory response, i.e., migration of large numbers of polymorphonuclear cells that may be of diagnostic significance.[11-14]

A. *Enterotoxigenic Diarrhea*

As a group, enterotoxigenic bacteria cause a clinical syndrome characterized by watery diarrhea, varying degrees of nausea and vomiting and the absence of fever. The clinical features of enterotoxin-induced illness are summarized in Table 2.[10, 15-17] Because of the overlap in symptoms, a diagnosis based on the clinical picture alone cannot be established with certainty.

1. **Staphylococcal food poisoning.** This syndrome is produced by heat stable enterotoxins, A-E, that are produced exogenously and ingested by the host. Most strains of *Staphylococcus aureus* appear to possess the capability of producing enterotoxins. The clinical expression is usually predominated by nausea and vomiting with diarrhea being less intense. Most verified cases are found in clusters of individuals eating the same food. The diagnosis may be established by culturing staphylococcus from the food and the subse-

TABLE 2
FEATURES OF ENTEROTOXIC ILLNESS[10, 15-18]

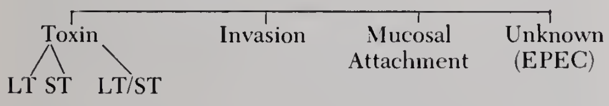
					Clinical Features			
Organism	*Reservoir*	*Vehicle*	*Toxin*	*Incubation*	*Vomiting*	*Abd. Cramps*	*Diarrhea*	*Duration*
Staph aureus	man	many foods	preformed (heat stable)	1-6 hours	+ + + +	+ +	+	6-12 hours
Bacillus cereus	soil	fried rice	preformed	1-6 hours	+ + + +	+ +	+	6-12 hours
		(others)	luminal	8-16 hours	+	+ + + +	+ + + +	24 hours
C. perfringens	soil	cooked meat (others)	luminal	8-16 hours	+	+ + + +	+ + + +	24 hours
E. coli (LT, ST)	man animals	water	luminal	4-24 hours	+	+	+ + + +	1-3 days
V. chlorea	man shell fish	water	luminal	6-72 hours	+	0	+ + + +	2-5 days
C. difficile	man animals	none	luminal	variable	+	+ + +	+ + +	Variable

quent demonstration of enterotoxin production, detection of enterotoxin in food or by finding enterotoxin in the vomitus or stool of the victim.

2. ***Clostridium perfringens* food poisoning.** Clostridial food poisoning results from the ingestions of vegetative forms of the organisms followed by multiplications in the small intestine and subsequent toxin production. The usual sequence of events is the preparation of food, often meats or gravy, in which contaminating spores have been introduced and sufficient temperatures are reached to allow germination of the spores. Diarrhea and abdominal cramps are the predominant features of the illness. The diagnosis can be made by anaerobic cultures of the suspected food.

3. ***Bacillus cereus* food poisoning.** *Bacillus cereus* is an aerobic Gram positive spore forming rod. Like clostridial food poisoning, the sequence of events are those of heating food (frequently rice) to temperatures allowing spore germination.[17] The victim then ingests either preformed toxin or vegetative organisms that in the former circumstance mimicks staphylococcal food poison with nausea and vomiting being predominant or, in the latter, a syndrome much like clostridial food poisoning. Diagnosis can be established by culturing $\geq 10^5$ organisms per gram of the epidemiologically incriminated food. The enterotoxin responsible for the diarrhea can be demonstrated by the ligated rabbit ileal loop technique although this is not practical for most clinical laboratories.

4. ***Escherichia coli* (Toxigenic).** Several mechanisms for diarrheal illness caused by these organisms have been elucidated during the past few years.[19-21] These are schematically represented below (ST):



Both heat labile (LT) and stable toxins (ST) have been identified as important in the production of diarrhea. These toxigenic *E. coli* have been incriminated as the cause of 40% to 60% of cases of traveler's diarrhea and may also cause sporadic diarrhea.[22, 23] At the present time, because no cultural, morphologic or growth characteristics allow one to separate toxin producing from non-toxin producing strains, there is no practical satisfactory means to diagnose illness produced by toxigenic *E. coli*. Current methods involve the use of a rabbit ileal loop model, suckling mice or tissue culture methods.

5. **Cholera.** Although cholera, caused by a Gram negative aerobic vibrio, is an infrequent problem in the United States, it is a very important pathogen worldwide. Furthermore, studies of this organism have led to much of the knowledge concerning other toxigenic bacterial causes of diarrhea. Even in the United States, one must be aware of this illness due to imported cases and, more recently, the identification of a small endemic area in the gulf coastal waters.[24, 25] Diagnosis can be established by stool cultures. However, one needs to have a high index of suspicion since the organism may be overlooked or will not grow on some media commonly used in most laboratories for stool cultures. If the diagnosis is suspected, cultures on taurocholate gelatin agar or thiosulfate-citrate bile salt agar are preferred.

6. ***Clostridium difficile.*** Over the past few years, a syndrome usually associated with antibiotic administration and characterized by fever, abdominal cramping, diarrhea and with pseudomembrane formation has been intensely investigated.[18] Although this was initially usually associated with the administration of clindamycin, it has become apparent that administration of a wide array of antimicrobial agents may result in enterocolitis. Investigations have shown that the illness is produced by a toxin(s) produced by an anaerobic organism, *Clostridium difficile*. The diagnosis can be suspected by isolation of *C. difficile* from the stool, which is best accomplished by selective media but requires demonstration of toxin in the stool for a firm diagnosis. Toxin is detected by a tissue culture method not widely available at present.

B. *Invasive Causes of Diarrhea*

As a group, the invasive bacterial agents of bacterial enteritis are Gram negative bacilli producing a clinical syndrome of small volume, mucoid to bloody stools accompanied by rectal urgency and tenesmus. Fever is usually present. The clinical features resulting from the common agents causing invasive diarrheas are listed in Table 3.[26]

1. ***Shigella.*** *Shigella sp.* are among the most common pathogenic agents isolated from stools submitted to microbiology laboratories. They are generally classified into the four following groups depending on serologic similarity and biochemical reactions: group A *(S. dysenteriae)*; group B, *(S. flexneri)*; group C, *(S. boydii)*; and group D, *(S. sonnei)*. *S. sonnei* accounts for 60% to 80% of the isolates in the United States.

TABLE 3
FEATURES OF INVASIVE BACTERIAL ENTERITIS[26]

Organism	*Reservoir*	*Vehicle*	*Mucosal Penetration*	*Incubation*	*Clinical Features*	*Duration*
Shigella	man	Person-Person Fecal-oral	*No	1-3 days	Bloody diarrhea	3-6 days
Salmonella (>1700 serotypes)	animal	Food (poultry)	occasionally	8-48 hours	Diarrhea	1-3 days
Salmonella typhi	man	water (food)	Yes	1-3 weeks	Fever, constipation, diarrhea, skin rash, pharyngitis, etc.	relapses 10-20%
E. coli	man	water	†No	1-3 days	Dysentery	1-3 days
Campylobacter‡	animals	water, milk	Yes	2-4 days	Dysentery	3-5 days
Y. enterocolitica‡	animals	water	Yes	1-10 days	Dysentery, acute appendicitis, mesenteric adenitis	2 days-?
V. parahaemolyticus‡	salt water	shellfish	Yes	4-48 hours	Watery diarrhea	12-72 hours

* Invades and destroys epithelium (rarely causes bacteremia).
† Invades and destroys epithelium.
‡ Also produce enterotoxins but role in pathogenesis unclear.

Although waterborne disease has been described, shigellosis is usually propagated from person to person by fecal-oral route. Unlike many of the agents causing bacterial enteritis, the ingestion of only 200 organisms will cause clinical symptoms in 25% to 50% of otherwise healthy persons. This virulence results in a higher degree of contagiousness, particularly to family members and institutionalized persons. The disease is characterized by the abrupt onset of fever, headache, rectal urgency and small, often mucoid-bloody stools.

2. ***Salmonella.*** Three species of salmonella are known. They are *S. typhi* (one serotype, *S. cholera-suis* (one serotype) and *S. enteritidis* (> 1700 serotypes).

In contrast to shigella, salmonella is most commonly a food or water-borne illness. The inoculum size necessary to cause disease in humans has been reported to be about 100,000 organisms. *S. typhi* penetrates the intestinal mucosa and spreads via the lymphatic system and blood stream to produce a systemic illness.

Salmonella typhi, although uncommon in the United States (only eight cases reported in Missouri in 1979),[27] produces a serious and sometimes fatal disease. Nonspecific symptoms of fever, headache, myalgia, abdominal discomfort, anorexia and a dry cough gradually appear a week or so after ingesting contaminated substances. The symptoms become more intense during the second week of illness and diarrhea or constipation with intense abdominal pain usually develop. After recovery, a carrier state develops in 2% to 5% of patients (positive stool culture for ≥ 1 year).

Nontyphoidal salmonellosis typically causes complaints of headache, abdominal pain, vomiting, fever and diarrhea. The illness is nearly always self-limited, lasting one to three days. Development of a carrier state is rare.

3. ***E. coli.*** As previously mentioned, several mechanisms for diarrhea production by these organisms have been described in the past few years. Some strains produce diarrheal illness by unknown mechanisms and are referred to an enteropathogenic *E. coli* (EPEC). The invasive strains produce a clinical illness indistinguishable from that of shigellosis. Like toxin-producing *E. coli,* no satisfactory, practical method exists to separate invasive from noninvasive strains. Currently, this is determined by inoculation of the suspect strain into the eye of a guinea pig (Sereny test). The production of keratoconjunctivitis is considered a positive test.

4. ***Campylobacter fetus.*** Three subspecies (ssp.) of campylobacter have been identified: fetus, intestinalis and jejuni. *Campylobacter fetus* (ssp.) jejuni has recently been reported to cause 5% of acute diarrhea cases in Denver.[8]

The clinical illness has a wide spectrum of initial symptoms but is most often of sudden onset, with systemic symptoms, headache, fever, malaise and anorexia commonly preceding diarrhea.

About one third of patients will have grossly bloody stools, and proctoscopic examination may show findings compatible with inflammatory bowel disease. In the majority of cases, the illness is of less than one-week's duration, but cases of prolonged illness of several weeks have been described. Up to 25% of patients may have a relapsing illness. Diagnosis requires special laboratory techniques with optimum results achieved when special media, incubation at 42C and marked reductions of atmospheric oxygen are utilized.

5. ***Y. enterocolitica.*** This organism has been implicated in approximately 2% to 3% of cases of acute diarrhea.[26]

Clinical illness is frequently prolonged. Diarrhea often lasts two weeks, abdominal pain one week and vomiting two to three days. The syndrome is often confused with acute appendicitis. There are many extraintestinal manifestations of *Y. enterocolitica* infections that include nonsuppurative arthritis or arthralgia, erythema nodosum, uveitis, Reiter's syndrome, carditis, thyroiditis, ophthalmitis, acute glomerulonephritis, hepatitis, pancreatitis and hemolytic anemia. Diagnosis may be enhanced by cold enrichment of the culture material.

6. ***Vibrio parahaemolyticus.*** In Japan, *V. parahaemolyticus* causes 70% of food borne illness during the months of July to October.[26] Many outbreaks of acute gastroenteritis related to ingestion of contaminated seafood have occurred in the United States. After ingestion of contaminated food and an incubation period of ten to 20 hours, explosive watery diarrhea, abdominal cramps and fever occur. Symptoms usually last two to three days. Again, one must suspect the diagnosis in order to properly culture specimens. Plating specimens on thiosulfate-citrate-bile agar or mannitol salt agar appears to be preferable.

Clinical Approach to Bacterial Enteritis

Knowledge of the mechanisms and epidemiology of the identified causes of infectious diarrheas serves as a basis for a rational approach to diagnosis and therapy. This approach incorporates a thorough history and physical examination as well as a thoughtful interpretation of selected laboratory studies.

Essential historical information includes the presence or absence of fever. Invasive bacteria are usually associated with significant fevers (>101F). Enterotoxigenic bacteria, viral infections and giardiasis usually are not accompanied by fever. An exception is rotavirus infections in children, which is often associated with significant temperature elevations.

A description of the diarrheal stool should be sought. Voluminous, watery stools imply small bowel pathologic condition most commonly due to an enterotoxin or virus. When the stools are small volume, bloody with mucous and associated with rectal urgency and pain, colitis is present, highly suggesting invasive pathogens.[16, 28-30]

Most toxin-mediated enteritis lasts less than three days and most identified viral diarrheas last less than one week.

A history of recent travel, especially to countries that are nonindustrialized, should be sought. The causes of diarrhea occurring in United States students visiting Mexico include enterotoxigenic *E. coli* (40%), shigella (15%), salmonella (10%), rotavirus (10%), *G. lamblia*, and *E. histolytica* (3%) and idiopathic (22%).[31] Travel to Japan in the months of July-October may be associated with *V. parahaemolyticus* infection.[26] Asia and particularly the Ganges Delta of India are endemic areas for *V. cholera*. *G. lamblia* outbreaks have been identified in Leningrad as well as the Colorado Rocky Mountains and western Kentucky. This organism has also been recently recognized as a relatively common cause of sporadic diarrhea.

A careful history of recently eaten foods should provide clues to the etiologic diagnosis. Poultry ingestion is often associated with salmonellosis.[10] Fried rice has been specifically associated with *B. cereus* food poisoning.[17] Various seafoods (steamed crabs, oysters) have been implicated in *V. parahaemolyticus*, *Y. enterocolitica* and *V. cholera* infections.[22, 23, 26]

Certain animal vectors are associated with clinical illness. Farm animals can transmit campylobacter, *Y. enterocolitica* and salmonellosis. Pet dogs can transmit campylobacter, and as many as 10% have various subspecies of *S. enteritidis* in their feces. Salmonellosis has also been acquired from pet turtles.[10]

The physical examination should note the presence or absence of fever, the degree of volume depletion and the extraintestinal signs of disease. Certain physical signs may be associated with specific etiologic agents and are outlined in Table 4.

Stool Examination for Fecal Leukocytes

A fecal smear for leukocytes is an extremely rapid, inexpensive and helpful diagnostic test. A small drop of mucous or unformed stool is thinly applied to a microscope slide, two drops of a 0.3% aqueous-alcohol solution of methylene blue are added, and a cover slip is placed on the slide.

TABLE 4
PHYSICAL SIGNS ASSOCIATED WITH SPECIFIC CAUSES OF BACTERIAL ENTERITIS

Physical Signs	*Pathogen(s)*
1) Conjunctivitis	Shigella, *Y. enterocolitica*
2) Abdominal rash; pharyngitis	*S. typhi*
3) RLQ abdominal pain	*Y. enterocolitica*
4) Hepatomegaly and splenomegaly	*S. typhi*
5) Arthritis	*Y. enterocolitica*, shigella, salmonella, campylobacter

After one to five minutes, the nuclei of leukocytes should stain blue. A Gram stain of a small amount of stool will also suffice to identify white blood cells. Leukocytes are not present in a normal stool, except in children less than one year of age. The exact number of leukocytes per highpower field (400 ×) necessary to imply significance has not been rigorously defined. A consensus from the literature would suggest 3/hpf in five fields is abnormal. As a practical matter when leukocytes are present, however, they are usually abundant.[11-14]

The presence or absence of fecal leukocytes suggests the pathogens listed in Table 5.

A false positive rate of 10% to 20% has been noted.[14] *G. lamblia* may cause fecal leukocytes in the stool in up to 17% of the cases. *E. histolytica* may also have a few PMNs/hpf in a low percentage of cases.

The rate of false negative fecal leukocytes is controversial. DuPont documented that 31% of patients experimentally infected with shigella did not have fecal leukocytes.[32] Harris *et al* experimentally infected 68 human volunteers with shigella, salmonella or invasive *E. coli* and noted fecal leukocytes present in 97% (66/68).[11] In another study of 20 specimens containing an invasive pathogen, 19 had fecal leukocytes present.[14]

TABLE 5
THE DIFFERENTIAL DIAGNOSIS OF ACUTE DIARRHEA BASED ON THE PRESENCE OR ABSENCE OF FECAL LEUKOCYTES

Present	*Absent*
A. *Invasive Bacteria*	A. *Toxigenic Bacteria*
Shigella	*E. coli*
Salmonella	*S. aureus*
Y. enterocolitica	*C. perfringens*
Invasive *E. coli*	*V. cholera*
Campylobacter fetus	*B. cereus*
V. paraphaemolyticus	
B. *Non-bacterial Causes*	B. *Viruses*
Trauma	Rotavirus
Inflammatory bowel disease	Parvovirus
Allergic colitis	
Vasculitis of colon	
Pseudomembranous enterocolitis*	C. *Parasites*
	Giardia lamblia
Ischemic colitis	*E. histolytica*

* Caused by bacterial toxin.

STOOLS CULTURES

To diagnose bacterial enteritis, the causative agent must be cultured from the stool. However, stool cultures are expensive (approximately $30/culture at our hospital) and time consuming (24 to 48 hours for salmonella, shigella and campylobacter and up to one month for *Y. enterocolitica*).

"Routine" stool cultures in most laboratories identify only salmonella and shigella. Shigella may be difficult to grow even when specimens are promptly taken to the laboratory and plated on appropriate media.[30] Recovery rates in naturally occurring shigella outbreaks range from 15% to 60%.

In *S. typhi* infections, organisms appear in the stool during the first two days, penetrate the mucosa and are not recoverable from the stool until the second week of illness when they are excreted into the gastrointestinal tract from the biliary system. To diagnose the other causes of invasive enteritis, special media and incubation conditions are needed.

In the majority of patients with acute diarrheal syndromes, the cost of a "routine" stool culture outweighs the benefits. The following general guidelines may be used in selecting patients who might benefit from a stool culture: (1) febrile patients with dysentery; (2) fecal leukocytes present in stool; (3) diarrhea lasting more than five to seven days; (4) outbreaks. Certain other persons known to be at high risk for acquiring or disseminating disease (nursery school teachers, food handlers, institutionalized persons) may also benefit from a stool culture.

If a stool culture is obtained, then the maximum information should be gained. Optimal results will occur if (1) the stool specimen is promptly cultured; (2) two or three specimens are obtained before antibiotics are given; and (3) special media are requested when an animal or seafood vector is likely. As previously mentioned, no simple method exists at the present time for the diagnosis of toxigenic or invasive *E. coli*.

UNIVERSITY OF MISSOURI-COLUMBIA EXPERIENCE

During a 15-month period from October, 1980 to January, 1981, a prospective study of all stool samples from random cultures submitted to the University of Missouri-Columbia Health Sciences Center Clinical Microbiology Laboratory were examined for fecal leukocytes by Gram stain and handled in the following way. Stools were collected in cardboard boxes on the wards and clinics and taken to the laboratory. Stools were processed within one to four hours of collection. Each specimen was inoculated to PEA (phenylethyl alcohol), Hektoen, XLD, McConkey and pectin media and incubated aerobically at 37C. In addition, selenite broth was inoculated and subcultured for 24 hours. Thiol broth was inoculated and placed at 4C and subcultured to pectin media at 48 hours and at 21 days. Media for campylobacter isolation were prepared using brucella base agar with 10% sheep's red blood cells to which 10 mg of vancomycin, 2,500 units of polymycin B, 2 mg of amphotericin B, 5 mg of trimethoprim, and 15 mg of cephalothin per liter were added. Specimens plated on this media were incubated at 42C in an atmosphere of 5% oxygen, 10% carbon dioxide and 85% nitrogen. Isolates were identified by standard microbiologic techniques. No effort was made to identify toxigenic or invasive *E. coli* or for halophilic vibrios, e.g., *V. parahaemolyticus*.

RESULTS

Seven hundred specimens were received from 533 patients including both adults and children. The results of the survey are summarized in Table 6. The numbers of bacterial pathogens isolated were low. The presence of fecal leukocytes led to a nine-fold increase in isolation of a bacterial pathogen.

THERAPY

The majority of patients with acute infectious diarrheas have a benign, self-limited illness. The major morbidity and mortality is associated with dehydration, especially in children and the elderly.[33, 34] Correction of fluid and electrolyte imbalance is the major goal of therapy.

Antibiotics are of proven benefit in patients with shigellosis and are recommended for non-typhoidal salmonellosis only in infants, immunocompromised patients and when bacteremia is documented. Erythromycin has been shown to reduce the relapse rate of campylobacter enteritis and to shorten the carriage time of the organism. Otherwise, the role of antibiotics in bacterial enteritis is of doubtful benefit. Oral vancomycin is appropriate treatment for antibiotic induced pseudomembranous enterocolitis.[35]

TABLE 6

SUMMARY OF A 15 MONTH PROSPECTIVE EVALUATION OF STOOL SPECIMENS SUBMITTED TO THE UNIVERSITY OF MISSOURI HEALTH SCIENCES LABORATORY

A. *Specific Pathogens:*
  1. Bacterial pathogens identified in 26/533 patients (4.9%)
  2. Frequency of specific pathogens:
    shigella — 1.3%
    salmonella — 2.3%
    campylobacter — 0.6%
    Y. enterocolitica — 0.4%
    E. coli — Not Tested
    V. parahemolyticus — Not Tested
B. *Fecal Leukocytes* (FL):
  1. FL present in 40/533 patients (7.5%)
  2. The diagnosis in the 40 patients who had FL's:
    a. Bacterial pathogen — 11 (28%)
    b. Ulcerative colitis — 4 (10%)
    c. Trauma (enemas) — 1(2.5%)
    d. *Giardia lamblia* — 1 (2.5%)
    e. No diagnosis — 23 (58%)
  3. FL present in culture (+) stools 11/26 (42%)
C. *Diagnostic Yield of Stool Cultures IF:*
  1. FL present 11/40 — (28%)
  2. FL absent 15/507 — (3%)

The empiric use of antibiotics in patients with acute diarrheal syndromes is almost never indicated. This deprives the patient of his natural microflora, may produce resistant strains of bacterial organisms and prolongs the carriage rate of some pathogens, particularly salmonella.[36] Another reason for discouraging the empiric or routine use of antimicrobial agents in diarrheal illness is inducement of diarrhea by the drug and, occasionally, pseudomembranous enterocolitis due to the toxin(s) of *Clostridium difficile*.

In the febrile dysenteric patient who exhibits fecal leukocytes, most authorities recommended treatment for presumed shigellosis. The choice of antimicrobial agent depends somewhat on the locale. At our institution, the shigella isolates are almost universally sensitive to ampicillin and trimethoprim-sulfamethoxazole.

SUMMARY

Acute diarrheal illness is a worldwide problem resulting in considerable mortality in underdeveloped countries. In the United States, it is a common cause of morbidity and some mortality. Detection of the cause of diarrheal illnesses remains unsatisfactory. Of the demonstrable causes, however, bacterial agents account for up to one third of the cases.

The bacterial causes of diarrhea can generally be divided into those that produce illness by toxigenic or direct invasive mechanisms. The former is characterized by watery, large volume, diarrhea and the absence of fever while the latter is reflected by small-volume stools, often with blood, fever and presence of fecal leukocytes. Depending on the intensity of the search, geographic area and laboratory methods utilized, a wide variety of organisms are capable of producing these illnesses. At the University of Missouri-Columbia Health Sciences Center, we performed a prospective survey of stools submitted for culture over a 15-month period. The overall numbers of bacterial pathogens isolated were low (4.9%) but represent several species including *Salmonella sp.*, *Shigella sp.*, *Y. enterocolica* and *Campylobacter sp.* Special studies for toxigenic agents were not included in the survey. The presence of fecal leukocytes in the stool increased the yield of bacterial pathogens by ninefold.

Even though the University is largely a tertiary care hospital, we believe this survey reflects the spectrum of organisms that may be seen by practicing physicians.

Because of the relatively low yield of bacterial agents, the cost of stool culture and the time involved, we believe that selectivity of patients for culturing of stools should be utilized. From our review of the agents and illness, the following criteria would seem appropriate for patient selection: (a) febrile patients with diarrhea; (b) fecal leukocytes present in the stool; (c) diarrhea lasting longer than five to seven days; and (d) common source outbreaks (this may involve culturing the suspected vehicle rather than the stool).

In general, therapy should be directed toward supportive care. Only in a few instances are there indications for antimicrobial therapy.

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Reprints: E. Dale Everett, M.D.
Division of Infectious Diseases
Dept. of Medicine
University of Missouri
Health Sciences Center
Columbia, MO 65212

> All progress is based upon a universal innate desire on the part of every organism to live beyond its income.
>
> —SAMUEL BUTLER
> "Note-Books," c.1890

ROBERT T. HALL, M.D. *and*
MARY JEAN BROWN, R.N., *Kansas City*

Neonatal Resuscitation in High-Risk Deliveries

A Prospective Study

This article reports a prospective study of neonatal resuscitation required at high-risk delivery of infants during a 20-week period in a university-affiliated city hospital. Deliveries considered at high risk by defined diagnostic criteria were attended by pediatric residents and neonatal nurses trained in techniques of neonatal resuscitation. The authors recommend that each institution that provides for delivering infants develops a protocol for identification of these at-risk patients and a 24-hour-a-day availability of trained personnel.

Dr. Hall and Ms. Brown are from The Truman Medical Center-West and Children's Mercy Hospital in affiliation with the University of Missouri-Kansas City School of Medicine.

IMMEDIATE CARE of the high-risk infant in the delivery room is one of the most demanding and critical functions of perinatal health care. Detailed planning and attendance of skilled personnel, as well as provision of proper equipment and facilities, are required. Following is an evaluation of a prospective program in a university-affiliated city hospital designed to provide optimal care of the infant suspected to be at risk because of high-risk perinatal factors.

PATIENTS AND METHODS

Diagnostic criteria for attendance of specially trained personnel at deliveries were developed prospectively from those of high risk scoring systems.[1-4] Diagnoses rather than risk scores were used as criteria for attendance. Deliveries of infants were attended by pediatric residents and neonatal nurses who were acquainted with and skilled in techniques of resuscitation. Delivery room nurses notified the pediatric team of the high-risk condition as far as possible in advance of the delivery to allow sufficient time for preparation.

Each delivery room was equipped with a radiant heated resuscitation table and compressed oxygen and air for delivery of warmed, humidified oxygen diluted by a blender. Equipment and supplies were provided in emergency resuscitation carts. These were resupplied after each delivery and checked by the neonatal nurse.

A questionnaire listing the indication(s) for attending the delivery, treatment provided and the condition of the infant was completed by one of the authors (MJB). Details of treatment beyond the delivery room, length of hospitalization and additional care delivery were not reviewed in detail except for those infants who died.

RESULTS

There were 786 deliveries during the 20-week period from March to July, 1980. Four hundred (51%) were attended by the team because of one or more high-risk complications. Tables 1, 2 and 3 show the number of complications by category and the relationship of that number to the total number of deliveries (percent). The number of complications exceeds the number of deliveries attended because some patients had more than one complication.

Table 1 shows that in 18% of all infant deliveries, there were maternal complications. Acute illnesses occurred with nearly twice the frequency of chronic illnesses. The most frequent of these was prolonged rupture of membranes for more than 24 hours prior to delivery.

Fetal complications occurred in 29% of deliveries (Table 2). The most frequent was delivery prior to 38 weeks (15%). No prenatal care and postterm delivery were the next most frequent complication and occurred respectively in 5% and 4% of deliveries.

The most frequent high-risk conditions were in the category of intrapartum complications (Table 3) and occurred in 49% of all deliveries. Nearly 40% of these were associated with meconium staining. However, all patients with meconium-stained amniotic fluid were included rather than those with thick meconium staining alone. Cesarean section accounted for team attendance at 10%

TABLE 1
INDICATIONS FOR ATTENDING DELIVERY MATERNAL

	Deliveries	
	No. Attended	*Percent Total*
Acute maternal illness	68	9
fever	17	2
hypertension	10	1
prolonged ROM (> 24 hr)	36	4
other maternal infections	5	0.6
Chronic maternal illness	37	5
diabetes	5	0.6
toxemia	7	0.9
heart disease	1	0.1
pulmonary disease	1	0.1
hemoglobinopathy	2	0.2
psychiatric disease	2	0.2
alcohol/drug addition	9	1
other	10	1
Maternal Age (< 16, > 35)	23	3
Parity >4	14	2
Total	142	18

TABLE 2
INDICATIONS FOR ATTENDING DELIVERY FETAL

	Deliveries	
	No. Attended	*Percent Total*
Preterm, < 38 wks	120	15
Postterm, > 42 wks	30	4
No prenatal care	38	5
Deviations intrauterine growth	10	1
Multiple gestation	11	1
Previous fetal loss	13	2
Suspected fetal anomaly	2	0.2
Rh sensitization	1	0.1
Polyhydramnios	2	0.2
Oligohydramnios	1	0.1
Total	228	29

TABLE 3
INDICATIONS FOR ATTENDING DELIVERY INTRAPARTUM COMPLICATIONS

	Deliveries	
	No. Attended	*Percent Total*
C-section	79	10
Precipitous labor	10	1
Dystocia	5	0.6
Fetal distress	73	9
Meconium staining	157	20
Abnormal presentation	25	3
Other	37	5
Total	386	49

of deliveries. Fetal distress was identified in 9% of deliveries.

Distribution of infants by birth weight and gestational age appear in Figs. 1 & 2. These distributions are characteristic of the at-risk population. Thirty infants were small for gestational age and 12 were large for gestational age.

Apgar scores at 1 and 5 minutes of age of the 400 infants appear in Figs. 3 & 4. Resuscitation consisted of oxygen alone in 140, oxygen with bag and mask ventilation in 73, and endotracheal intubation with assisted ventilation in 17. Only five infants received drug therapy in the delivery room. The number of infants with Apgar scores of 3 or less was reduced from 58 at one minute to 13 by five minutes in spite of the infrequent use of endotracheal intubation.

Progress of infants was recorded by the type of care provided following that in the delivery room (Table 4). Sixty-nine percent of infants delivered were admitted directly to the normal newborn or continuing care nurseries after a period of stabilization and observation. The remaining 31% were admitted to the intermediate Level II nursery or transferred to the Level III intensive care nursery. There were no deaths in the delivery room, although 16 infants subsequently died. This represents a mortality rate of 20/1000 live births.

Two infant deaths were related to asphyxia. One infant had persistent fetal circulation associated with confluent bronchopneumonia that was demonstrated at autopsy. This infant had pea-soup meconium staining and received suctioning of the pharynx prior to delivery and of the trachea after delivery. The second infant, who died an asphyxia-associated death, had pulmonary hypoplasia with Potter's syndrome. The remaining deaths were due to extreme prematurity with birth weight less than 750 gm (10); septicemia, (2); and congenital malformations, (2).

Distribution of the hour of birth was examined and found to be nearly the same throughout each

TABLE 4
TYPE OF CARE AFTER DELIVERY

	Deliveries		
	No. Attended	*Percent Attended*	*Percent Total*
Normal newborn	277	69	35
Continuing care	10	3	1
Intermediate	95	24	12
Intensive	18	4	2

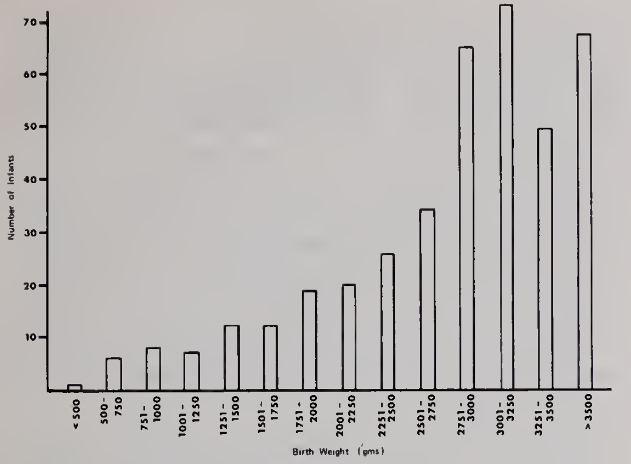

Fig. 1 Distribution of high-risk deliveries attended by birth weight.

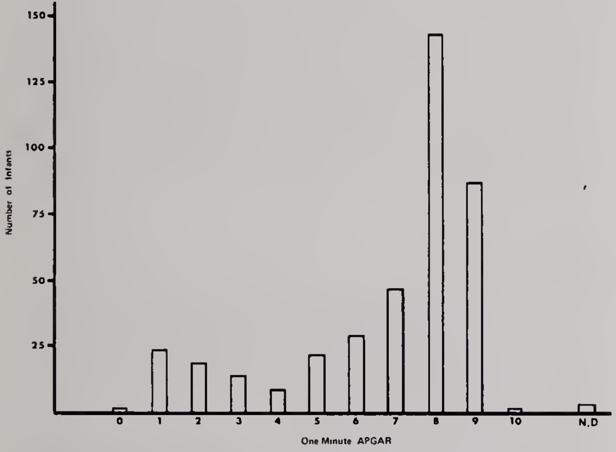

Fig. 3 Distribution of Apgar scores at 1 minute in the high-risk infant population.

hour of the day except 1,200 to 1,300 hours, which is the time routine cesarean sections are performed. There was also homogeneity of deliveries attended by week, indicating little influence of changing house officers or nursing personnel.

A pediatrician was called after the delivery of only nine infants whose complications were not anticipated. Six had asphyxia, one had meconium staining and one had prolonged rupture of membranes. The ninth had a seizure that was totally unexpected. Three of these infants were admitted to the intermediate care nursery and the other six to the normal newborn nursery after treatment in the delivery room. Seven infants received oxygen alone and two were given bag and mask assisted ventilation. All nine infants survived.

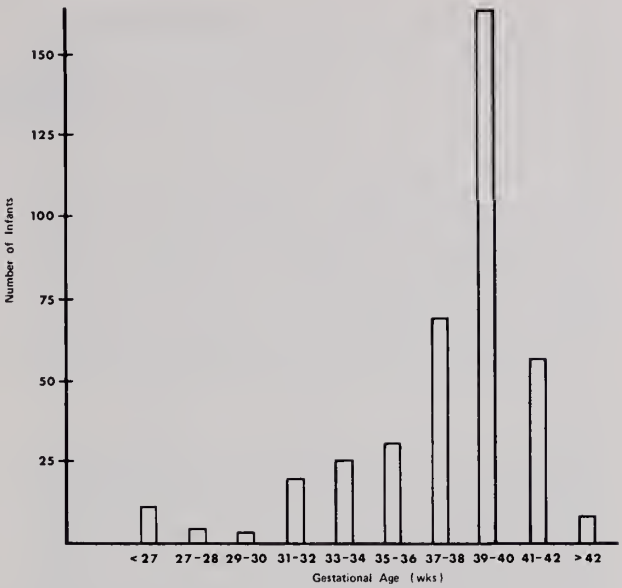

Fig. 2 Distribution of high-risk deliveries attended by gestational age.

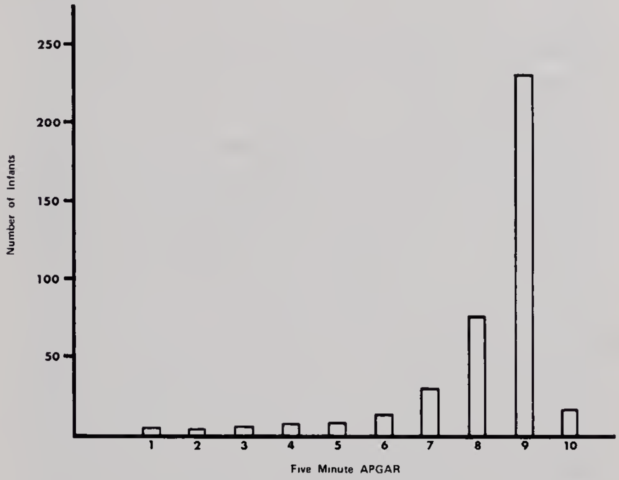

Fig. 4 Distribution of Apgar scores at 5 minutes in the high-risk infant population.

Discussion

These data indicate that approximately 50% of deliveries in a predominately inner city population are at risk by diagnostic criteria used in this study. The diagnoses were selected prospectively from widely accepted standards for predicting risks although a scoring system was not used. The success of the risk assessment list in predicting infants who will require special care is indicated by the observation that only nine of the remaining 386 infants (2.3%) had problems in the delivery room and only two of these required assisted ventilation. Conversely, 90 infants (22%) whose deliveries were attended because of predicted risk required bag and mask and/or endotracheal tube assisted ventilation.

The Apgar scores at one and five minutes of age reflect the method of resuscitation used. Infants with Apgar scores of 4 to 6 received oxygen by face mask while those with scores of 1 to 3 (gasping respirations) received bag and mask assisted ventilation. It is our experience that the majority of infants requiring ventilatory assistance, 56/73 or 76%, can be managed successfully with bag and mask. Only 4% of infants attended, or 2% of the total deliveries, required endotracheal intubation. Intubation for assisted ventilation alone is limited to those infants with Apgar scores of 1 (heart rate less than 100) at any time after birth and who fail to respond to bag and mask resuscitation.

Only two infants died with severe asphyxia. The death of the infant with persistent fetal circulation and meconium aspiration was potentially preventable. Autopsy, however, revealed diffuse bronchopneumonia suggesting that the pulmonary disease was the result of intrauterine aspiration and infection. Tracheal suctioning yielded only a small amount of meconium. The second infant who died an asphyxial death had severe pulmonary hypoplasia and death was considered nonpreventable.

The importance of identifying and attending high-risk deliveries is documented in this study in which 22% of infants whose deliveries were at-risk required skilled resuscitation with assisted ventilation. An attempt was made to identify those categories of predicted risk that resulted in minimal or no risk, although none was found. All categories of risk were documented to result in patients requiring skilled care. However, 386 of the 400 at-risk patients identified had intrapartum problems, suggesting that the vast majority of maternal and fetal risk factors will be manifest by intrapartum complications (Table 3.)

This study has significant implications for provision of care for high-risk infants in the delivery room. The at-risk population was successfully identified and skilled care was required at all hours of the day throughout the entire study period. Unfortunately, a large percentage of the total population (51%) was categorized as being at risk, and attempts to identify a smaller number who required highly skilled techniques of assisted ventilation were not successful because these infants occurred in all categories of risk. The major problem of provision of care is related more to availability of skilled personnel than to identification of risk or performance of care when the provider is present.

It is recommended that each institution that provides for delivery of infants develops a protocol that includes immediate availability of care for the infant in the delivery room by trained personnel who know the techniques of resuscitation. This may include individuals from various specialties such as family practice, pediatrics, anesthesiology, nursing or respiratory therapy. Most important, the sole responsibility of each person involved is the care of the infant in the delivery room.

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Reprints: Robert T. Hall, M.D.
Chief, Neonatal Medicine
The Children's Mercy Hospital
24th at Gillham Rd.
Kansas City, MO 64108

Reform must come from within, not from without. You cannot legislate for virtue.

James Cardinal Gibbons
Address in Baltimore, Jan. 10, 1918

NATHANIEL WINER, M.D., *Kansas City*

Hypertension in the Elderly

TODAY, MORE AMERICANS are reaching old age partly because a larger fraction of them have survived once-fatal childhood illnesses. Thus, 11% of our population are now 65 years of age or older.[1] In the over-65 age group, more than 40% have either isolated systolic or systolic/diastolic hypertension compared with only 11% in the 35 to 45 age group.[2] Isolated systolic hypertension is defined as >160/≤90 mm Hg, and systolic/diastolic hypertension as >160/>90.

Hypertension is a major cause of death and disability in the elderly; two to three times as many strokes occur in elderly hypertensive subjects as in age-matched normotensive subjects.[3] Isolated systolic blood pressure >180 mm Hg increases the risk of stroke or death from coronary disease two and one half times in the 65- to 74-year age group.[4] Moreover, congestive heart failure and chronic brain syndrome frequently accompany uncontrolled hypertension. Data from the Framingham study show that mortality and morbidity from these cardiovascular events are associated with hypertension and are not the inevitable consequences of aging per se.[5] The higher the pressure and the more advanced the age, the greater is the danger of these morbid events.[6]

Whether the prognosis of the elderly patient with systolic/diastolic hypertension can be improved by drug therapy has been examined in several studies. In the Veterans Administration Cooperative Study, a small number of patients of age 60 or more and with diastolic blood pressure of 105-114 mm Hg were shown to have a reduced incidence of morbid events with drug therapy.[7] Although there was also a tendency for the patients in the 90 to 104 mm Hg diastolic range to show a reduction in morbid events, the difference was not statistically significant. The recently published High Blood Pressure Detection and Follow-Up Program (HDFP) showed that when about 2,000 patients aged 60 to 69 were randomized to a stepped-care group in special clinics and were compared to a control group referred to their usual community resources for care, there was a 16% reduction in mortality in the more intensively treated, stepped-care group after five years.[8] The difference in death rate occurred with only a slightly higher rate of achieving the targeted blood pressure in the stepped-care group. A similar conclusion was reached on the protective value of drug therapy in mild hypertension in patients over 50 years of age in the Australian National Blood Pressure Study.[9]

The changes in cardiovascular structure and function that occur with aging are relevant to management of hypertension in the elderly. These alterations include decreased cardiac output[10] due in part to a fall in blood volume[11] and decreased myocardial contractility,[12] loss of elasticity of the aorta and peripheral arteries leading to a disproportionately high systolic blood pressure,[10, 13] and increased peripheral vascular resistance.[11]

In addition, aging results in a loss of renal cortical mass and a reduction in renal blood flow and glomerular filtration rate secondary to both a decrease in the number of functioning glomeruli and a reduced functional capacity of the remaining glomeruli and tubules.[15] Thus, concentrating ability and sodium conservation may be impaired, both of which may cause hypovolemia, a consideration that mandates caution in the use of diuretic agents in these patients. Further, baroreceptor reflex function may be adversely affected by decreased aortic elasticity and atheromatous disease of the carotid sinus. Acute increases or decreases in blood pressure may be buffered poorly leading to marked blood pressure lability.[15] Finally, autoregulation of cerebral blood flow in the elderly hypertensive is carried out at a relatively higher level of blood pressure than in normotensive subjects.[16] Thus, blood

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Hypertension is a major cause of death and disability in the elderly, and more Americans are now reaching old age. The author discusses the symptoms of hypertension and suggests various treatments. He also provides an excellent list of references for physicians who have patients with this condition.

Dr. Winer is Professor of Medicine and Chief of the Section of Endocrinology, University of Missouri-Kansas City School of Medicine.

TABLE 1
STEPS IN MANAGEMENT OF HYPERTENSION IN THE ELDERLY

STEP 1: Sodium restriction and weight reduction (if overweight)
STEP 2: Diuretic therapy
  a. hydrochlorothiazide or chlorthalidone
  b. potassium-sparing diuretic, if needed — spironolactone, triamterine or amiloride
  c. loop diuretic — furosemide — if renal function impaired
STEP 3: Add sympatholytic
  a. β-blockers: atenolol, metoprolol, propranolol, nadalol, or timolol
  b. clonidine
  c. methyldopa
  d. α-blocker — prazosin
STEP 4: Add vasodilator — hydralazine or α-blocker — prazosin

pressure reduction should be gradual to avoid failure of autoregulation and impairment of cerebral perfusion.

Isolated systolic hypertension is common in the elderly because of the effect of aging on arterial compliance and venous capacitance. It has been known from previous studies that systolic blood pressure predicts cardiovascular risk and mortality as well as diastolic blood pressure, and it correlates even better with stroke risk.[17] Since the benefits and risks of treatment of isolated systolic hypertension are not known, guidelines for treatment of patients with systolic hypertension are necessarily empirical. Nevertheless, treatment may reduce left ventricular workload, which depends more on systolic than diastolic blood pressure.

With the increased risk of systolic blood pressures exceeding 180 mm Hg,[4] treatment would appear warranted in patients with systolic blood pressure of 180 mm Hg or higher. In addition, therapy is indicated for patients with end-organ damage secondary to hypertension, such as congestive heart failure or angina pectoris or for those who show evidence of left ventricular hypertrophy.[4] Afterload reduction in these situations should reduce cardiac work and myocardial oxygen demands. Patients with previous strokes might benefit from cautious systolic blood pressure reduction, whereas antihypertensive therapy might be hazardous for patients who are having transient ischemic attacks or who suffer from peripheral vascular disease.

Since the elderly are more likely than their younger counterparts to have systemic diseases other than hypertension, a search for underlying causes of hypertension may be justified. Predominately systolic hypertension may be secondary to an increased cardiac output or stroke volume as with thyrotoxicosis, arterio-venous fistulae, Paget's disease or aortic insufficiency. In patients with systolic and diastolic hypertension, renal artery stenosis should be considered if easily-managed blood pressure becomes suddenly uncontrolled, if triple-drug therapy fails to control blood pressure, if bruits are heard over the abdomen or flank areas, or if severe hypokalemia is noted with or without diuretic therapy.

Blood pressures when the patient is both supine and standing should be measured in elderly patients to avoid orthostatic hypotension. The physician should suspect "pseudo-hypertension" in elderly patients who show little or no evidence of target organ damage despite severe hypertension.[18] Direct arterial blood pressure measurement will distinguish these patients whose sclerotic, rigid peripheral arteries may give falsely elevated pressures. The initial treatment of hypertension in the older patient should include weight reduction,[19] if needed, and decreased salt intake.[20] If diastolic blood pressure is 90-100 mm Hg, nonpharmacologic methods may suffice. When drug therapy is indicated, medication should be started at a low dose and titrated slowly, according to the upright blood pressure response since the elderly are more likely to have an orthostatic fall in blood pressure.[21]

Elderly people differ from younger patients in responding to drugs because of decreased gastrointestinal absorption secondary to diminished splanchnic blood flow or changes is gastric acidity,[22] differences in protein binding,[23] and reduced rates of hepatic metabolism[24] or renal clearance.[14] Since plasma drug levels and their half-lives may be increased, elderly patients may require lower or less frequent doses of many antihypertensive agents. Because of concommitant diseases, elderly patients may be receiving other drugs that could potentially promote the incidence of adverse drug interactions.

The stepped-care approach[25] to the treatment of hypertension (Table 1) may be modified for the management of the elderly hypertensive. If nonpharmacologic measures such as salt restriction and weight reduction fail to lower the blood pressure, a regimen of diuretics should be started in small doses, with the dose increased as necessary and other drugs added sequentially if needed. Diuretics often satisfactorily reduce both systolic and diastolic blood pressure in the elderly patient by reducing plasma volume, cardiac output, body stores of sodium and peripheral vascular resistance. Furosemide may be needed to cause sodium excretion if glomerular filtration is less than 40 ml/min.[26]

A major side effect of diuretic therapy is hypokalemia, which is of special importance in the elderly patient on a potassium deficient diet and receiving a cardiac glycoside because of the possibility of hypokalemia-induced complex ventricular ectopic activity.[27] Potassium supplementation or concomitant use of a potassium-sparing diuretic such as spironolactone, triamterene or amiloride may be needed. Adherence to a sodium-restricted diet and the use of a potassium-containing salt substitute may also prevent hypokalemia. Careful monitoring of serum potassium during treatment with potassium-sparing agents is essential because hyperkalemia may occur in patients with renal insufficiency.

Although impairment of glucose tolerance is usually not a significant management problem during thiazide therapy,[28] the potential long-term effects of elevation of serum cholesterol and triglycerides[29] remain to be evaluated. In patients who have a history of gout or develop an acute attack of gouty arthritis while receiving diuretic therapy, allopurinol or colchicine or both may be added. In addition, immobilized patients run the risk of hypercalcemia when treated with a diuretic. Since excessive diuresis can lead to orthostatic hypotension and to prerenal azotemia, a starting dose of 25 mg of hydrochlorothiazide on alternate days may be tried.

If diuretic therapy alone fails to control blood pressure satisfactorily, then a beta-adrenergic receptor antagonist may be added as a second step. If patients with congestive heart failure, second degree or greater heart block, asthma or chronic obstructive pulmonary disease with predominant bronchoconstriction are excluded, then many elderly patients may be safely treated with beta-blockers.

These agents generally lower blood pressure with the patient in both supine and standing positions and have a low incidence of side effects. Unlike other centrally-acting agents such as clonidine and methyldopa, beta-blockers generally do not produce central nervous system depression. Although their mechanism of action is not clear, they may lower blood pressure by reducing cardiac output,[30] inhibiting renal renin release[31] and decreasing central autonomic nervous system activity.[32] The antiarrhythmic and antianginal actions of beta-blockers may be added benefits in the elderly patient who suffers from cardiac rhythm disturbances or angina; beta-blockers may possibly protect against recurrent myocardial infarction as well.[32] Also, senile tremor may be improved with low doses of beta-blockers.[33]

Beta-blockers are contraindicated in diabetic patients who are insulin-dependent or receive hypoglycemic medication, although cardioselective beta-antagonists such as metoprolol or atenolol may be used in the diabetic. The possibility of unmasking a latent sick-sinus syndrome with resultant bradycardia should be anticipated with treatment with beta-blockade or other sympatholytic agents. Pindolol,[34] a beta-blocker with intrinsic sympathomimetic activity which has been marketed recently in the United States, may decrease the likelihood of such bradycardia. Of the available beta-blockers, atenolol offers the advantage of cardio-selectivity, once-daily administration and low central nervous system penetrability.[35] Therapy with beta-blockers should be tapered slowly over two to three weeks to prevent withdrawal manifestations, exacerbation of angina, myocardial infarction, ventricular arrhythmias and sudden death.[36]

Reserpine, methyldopa and clonidine may be effective in elderly patients with hypertension, but they probably have a greater incidence of side effects than beta-blockers. Rauwolfia compounds may cause depression[37] and should be avoided in elderly hypertensive patients, especially those who have altered mentation. Both methyldopa and clonidine may cause drowsiness, dryness of the mouth and orthostatic hypotension. Since methyldopa is metabolized by the liver and may cause hepatitis,[38] liver function tests should be monitored closely during the first two months of therapy and every five to six months thereafter. Abrupt cessation of clonidine therapy may result in withdrawal symptoms and a rapid rise in blood pressure with doses in excess of 1.2 mg per day.[39]

Guanethidine therapy should not be used in the elderly hypertensive patient because of its potential for orthostatic hypotension[40] and acute urinary retention in the presence of prostatic hypertrophy.[41] All sympatholytic medications may decrease libido or produce impotence, which in an otherwise vigorous elderly man, may be a source of great concern.

Prazosin, a postsynaptic alpha receptor blocker, reduces blood pressure by causing vasodilatation and a reduction in peripheral vascular resistance.[42] It may be used effectively in combination with a diuretic, as a third drug in severe hypertension or alone in patients with mild hypertension or in those in whom diuretics may cause hyperuricemia and acute gouty arthritis. Some patients with hypertension and concomitant congestive heart failure may benefit from its after-load reducing effect.[43] Since orthostatic hypotension may occur after the first dose,[44] prazosin therapy should be started at 1 mg twice or three times daily with the initial dose to be taken just prior to bed-time. If prazosin is to be added to an existing regimen, it is advisable to reduce the dose of the diuretic or sympatholytic agent.

Hydralazine may be used when blood pressure is refractory to a combination of a diuretic and sympatholytic agent.[45] A sympatholytic agent will block reflex tachycardia induced by hydralazine and avoid precipitating angina in patients with coronary artery disease. Since vasodilators tend to promote retention of sodium and water, a diuretic is often needed. Hydralazine is best avoided in patients with rheumatoid arthritis because of diagnostic confusion arising from lupus-like syndrome.[46] However, lupus manifestations are less likely to occur when daily doses of hydralazine are less than 200 mg.[47]

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Reprints: Nathaniel Winer, M.D.
Chief, Endocrine Section
University of Missouri-Kansas City
School of Medicine
24111 Holmes St.
Kansas City, MO 64108

JOHN HAVEY, M.D. *and*
MARION C. HARPER, M.D., *Columbia*

Use of Ender Nails for Peritrochanteric Fractures of the Hip

INTERTROCHANTERIC AND SUBTROCHANTERIC FRACTURES have long been a problem in the elderly and debilitated patient. Nonoperative methods of treatment have repeatedly been associated with excessive morbidity and mortality since this type of patient tolerates prolonged bed rest and casting poorly. After the introduction of accepted modes of internal fixation, the Jewett nail became the most popular device for stabilizing this difficult fracture. Although it is a definite improvement over nonoperative methods of treatment, the Jewett nail, which is a fixed nail-plate device, was associated with a significant incidence of nonunion, malunion and loss of fixation.[1] Usually, this occurred in the more unstable fracture patterns with the nail either holding the fracture fragments apart or cutting out of the head and neck segment as postoperative impaction occurred.

In 1955, Schumpelick and Jantzen from Germany described a sliding screw-plate which was introduced and popularized in this country by the Richards Manufacturing Co.[2] This type of device, which allows the fracture fragments to impact while maintaining secure fixation and allowing early weight bearing, continues to be extensively used.

Küntscher, in 1966, described a curved condylocephalic nail that was inserted into the distal femur through a small incision over a guide wire and placed into the head and neck.[3] This device differed significantly from previously described nail plate devices and sliding or compression screws in that the load was now borne axially, thus decreasing the bending moment to which the internal fixation device was subjected. In addition, the fracture site was not opened, thus limiting surgical morbidity.

Ender, from Vienna, modified this technique by using pre-bent 4.5 mm intramedullary nails (Fig. 1) which were introduced into the medial distal femur and passed into the femoral head where they were allowed to fan out.[4] These nails were smaller and more flexible than the Küntscher nail, were easier to insert, and avoided injury to the knee ligaments when inserted. Ender nails have gained increasing popularity in Europe and in this country since their introduction in 1969 with Kuderna *et al* reporting a series of 203 patients with a 10.3% inhospital mortality rate, a 3.9% superficial infection rate, and functional return in all survivors.[5] Chapman *et al* recently compared the Ender nail to the sliding screw in 100 patients and felt that the Ender nail was useful in elderly patients with stable hip fractures but should be used with caution in unstable hip fractures.[6]

The purpose of this paper is to report our early experience with the Ender nail as used for both stable and unstable fracture patterns.

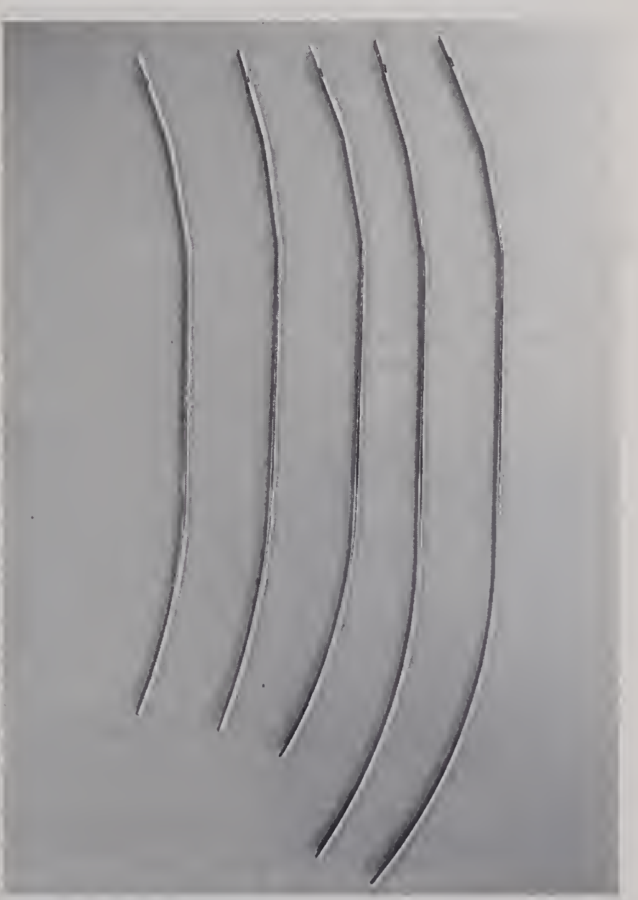


Fig. 1 Flexible prebent 4.5 mm Ender pins in variable lengths.

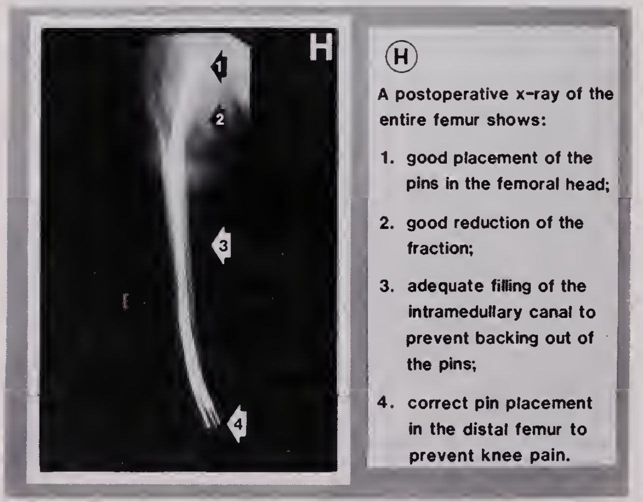
The use of Ender nails has been especially valuable in treating the elderly patient with a peritrochanteric or subtrochanteric fracture because of the decreased operative time, decreased blood loss, negligible infection rate and early patient mobilization. The authors point out the problems as well as the advantages of this procedure.

Dr. Havey is in private practice of orthopedic surgery and Dr. Harper is Assistant Professor, Division of Orthopedic Surgery, University of Missouri-Columbia Health Sciences Center.

CLINICAL MATERIAL

From November, 1980 to February, 1982, 42 patients with intertrochanteric and subtrochanteric fractures were treated with Ender nails at the University of Missouri-Columbia Health Sciences Center. Included were 23 men and 19 women with an age range from 34 to 94 years. The average patient age was 73 years. Most patients were admitted within 48 hours after their injury with the average time from injury to surgery being two days. Many patients suffered from associated medical problems including diabetes mellitus, malignancy, cardiopulmonary disease, alcoholism, hypertension and various central nervous system disorders.

The classification described by Kyle was used to categorize stable versus unstable fracture patterns.[7] A distribution as follows was noted: type (1), 12; type (2), 15; type (3), 10; type (4), 2; subtrochanteric transverse 1; and subtrochanteric oblique 2. Fourteen of the 42 patients with fractures (33%) were considered unstable.



A postoperative x-ray of the entire femur shows:

1. good placement of the pins in the femoral head;
2. good reduction of the fraction;
3. adequate filling of the intramedullary canal to prevent backing out of the pins;
4. correct pin placement in the distal femur to prevent knee pain.

Fig. 2 Correct pin placement.

TECHNIQUE

Using general or spinal anesthesia, the patient is placed supine on a fracture table that will accommodate the C-arm of the image intensifier. The injured extremity is subjected to traction while positioned in abduction and internal rotation. Fracture reduction is then checked with the image intensifier on anterior-posterior and lateral views. An effort is made to align the head and neck fragment in a straight configuration with the shaft fragment. A crutch is used, if necessary, to support the fracture site from below.

A 7 cm incision is made from the adductor tubercle proximally on the medial side of the leg. The vastus medialis muscle is reflected anteriorly off of the intermuscular septum. The distal femur is exposed and a small subperiosteal branch of the superior medial geniculate artery is identified just proximal to the adductor tubercle. A drill hole is made 1 cm proximal to the vessel and enlarged to a 2 cm by 3 cm oval configuration. To choose the correct nail length, a nail is placed on the drapes over the femur with the distal end overlying the entry hole and the proximal tip overlying the hip joint as seen on image intensification.

A T-handled driver is then used to insert the first nail, which is guided past the fracture site into the head and neck. A second nail is inserted with its tip positioned in a different area of the head. After two nails are inserted to within .5 cm to 1 cm of the joint surface, traction is released and the fracture is impacted.

Two or three additional nails are then inserted, depending on the size of the medullary canal and the amount of osteoporosis. It is recommended that four or five nails be used if possible. It is important to fill the medullary canal at the isthmus with nails and to spread the tips of the nails in the head in at least one plane (Fig. 2). The distal ends of the nails should be proximal to the adductor tubercle to allow a slight amount of backing out as the fracture settles. Nails may be bent into mild anteversion or more varus or valgus to achieve better positioning. The wound is closed routinely with suction drainage. The hip is put through a range of motion under the image intensifier to check for stability and possible penetration of the nails through the femoral head. A derotation short-leg splint is used routinely postoperatively while the patient is lying or sitting. Prophylactic antibiotics as well as deep venous thrombosis prophylaxis are routinely used.

Results

For the entire series, the average time of hospitalization was 15 days. Operating time averaged 1.3 hours with an average blood loss of 260 cc. Fifty-two percent of the patients required blood transfusions. There were no significant intraoperative complications. In several patients, small longitudinal fracture lines were noted to develop at the proximal end of the entry hole during nail insertion, but none progressed and there were no supracondylar fractures.

Postoperatively, 71% of all patients were sitting in a chair within three days. Fifty-seven percent were ambulatory with support within the first week. Early postoperative medical complications included one cerebrovascular occlusion, one bowel obstruction, and one myocardial infarction associated with a pulmonary embolus. No problems with wound healing or wound infections were noted.

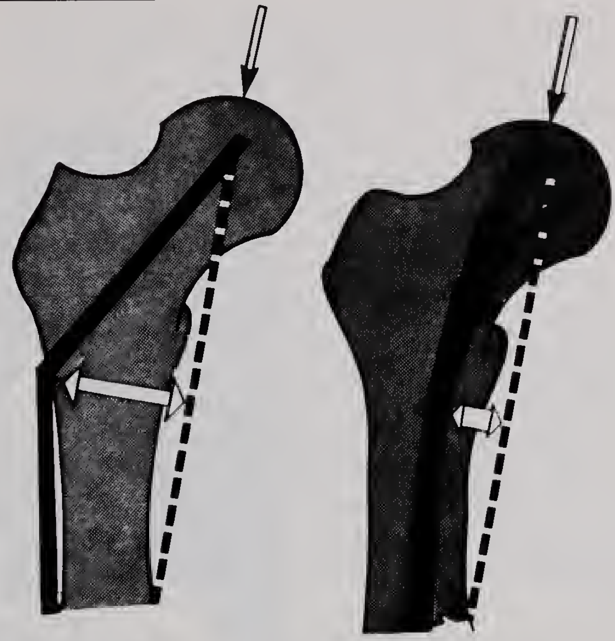
Thirty-four of 42 patients could be followed long enough to evaluate healing and function. Ten patients died within the first three months, two with healed fractures. Of the 34 patients with adequate follow-up, 30 healed in good position. In two patients, inadequate purchase by the pins in the proximal fragment resulted in a varus position postoperatively. Both fractures healed, were associated with reasonable function, and did not require revision. In two cases, there was complete loss of fixation with subsequent revision to a resection arthroplasty in one and a compression hip screw in the other. Technical errors were felt to be related in both instances involving poor pin placement in one and improper indication for this technique in another. Twenty-four of 34 patients remained ambulatory at follow-up.

Shortening of from 1 cm to 3 cm occurred in five patients with an average of 2.5 cm. External rotation deformities of 5 degrees to 30 degrees were noted in many patients but were not a clinical problem.

Late complications occurred in three patients with pins that backed out sufficiently to cause knee pain and necessitate removal. Five additional patients had mild knee discomfort associated with pin protrusion. In one case, a single pin was noted to penetrate into the hip joint six weeks postoperatively. This was removed and the patient apparently suffered no ill consequences. There were no delayed unions, nonunions or implant failures.

Discussion

Much of the advantage of the Ender technique relates to the fact that it is basically a closed procedure in that a small incision distant from the fracture site is used to introduce the pins. This results in less surgical morbidity with a short anesthetic and surgery time, small intraoperative blood loss, and a low infection rate when compared to techniques that open the fracture site.[5] Because the pins are placed in a more advantageous position in regard to the bending moment about the hip than nail-plate or screw devices, they are able to withstand the large forces about the hip in spite of being relatively small and flexible (Fig. 3). They thus allow early patient mobilization including early weight bearing.



In nail-and-plate devices the load is borne at the end of a long lever arm (distant from the compression vector). A large bending moment results. In flexible pins this lever arm is much shorter. They are thus less subjected to bending stress and have weight-bearing stability; metal fatigue is retarded.

Fig. 3 Biomechanical advantage of an intramedullary pin.

Our initial experience tends to confirm these cited advantages. We are currently using the technique for both stable and unstable fractures realizing that the more unstable patterns may need to defer ambulation or weight bearing for one to three weeks postoperatively.

As we have gained experience, we have seen the advantages of several technical points. We are now routinely attempting to place four or five pins in the head versus three to four previously. Stacking or filling the isthmus is felt to be important. A larger entry hole (2 cm x 3 cm) than Ender recommends is helpful in placing more pins. A bone clamp placed just proximal to the entry hole will help prevent the tendency to fracture during pin insertion. Pin placement should avoid the anterolateral segment of the head since this area is relatively devoid of good quality bone and placement here can lead to protrusion through the head. Impacting the fracture after two pins have been placed adds to stability. Briefly checking stability and pin placement under fluoroscopy at the end of the procedure has been helpful in planning postoperative management.

Although not necessarily the treatment of choice for all peritrochanteric fractures, the Ender technique has proven to be valuable in the older patients in whom it is desirable to both limit surgical morbidity and yet gain early mobilization.

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Reprints: Marion C. Harper, M.D.
Division of Orthopedic Surgery
University of Missouri
Health Sciences Center
Columbia, MO 65212

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Anxious patients improve in just a few days

And what is more reassuring to an excessively anxious patient than medication that promptly starts to relieve his discomforting symptoms? Valium® (diazepam/Roche) begins working within 30 to 90 minutes. Patients continue to improve in just a few days, and relief continues throughout the course of treatment.

There are other important benefits with Valium as well—along with its broad clinical range, Valium has an efficacy/safety profile that few, if any, drugs can match. This record has been achieved with extensive clinical experience, undoubtedly including yours. And, as you must have observed, side effects more serious than drowsiness, fatigue or ataxia rarely occur. Nevertheless, as with any CNS-acting agent, patients should be cautioned about driving, operating hazardous machinery or ingesting alcohol or other CNS-depressant drugs while taking Valium.

Yet another benefit Valium affords is flexibility. Available in 2-mg, 5-mg and 10-mg scored tablets, Valium enables you to titrate dosage to individual patient needs. For the geriatric patient, a starting dosage of 2 to 2½ mg once or twice a day is recommended. And, for patients who forget or skip medication, you can prescribe Valrelease™ (diazepam/Roche) 15-mg slow-release capsules, knowing that Valrelease will assure all the benefits of Valium 5 mg *t.i.d.* with the convenience of once-a-day dosage.

Discontinuation of Valium (or Valrelease) is typically as smooth as its start in short-term therapy. However, Valium and Valrelease should be discontinued gradually after more extended treatment. As you diminish dosage, the built-in tapering action of Valium and Valrelease will help avoid rapidly recurring anxiety symptoms and symptoms of withdrawal, and will help ease the patient's transition to independent coping when therapeutic goals have been achieved.

...that's one of the unique benefits of

Valium® (IV)

diazepam/Roche

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For a summary of product information, please turn the page.

ROCHE®

Valium® (diazepam/Roche) ⒸIV Tablets
Valrelease™ (diazepam/Roche) ⒸIV slow-release Capsules
Injectable Valium® (diazepam/Roche) ⒸIV

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome. *Oral forms* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures; tetanus; anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

> *Usage in Pregnancy:* **Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE. *To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used I.V.: inject slowly, taking at least one minute for each 5 mg (1 ml) given; do not use small veins,* i.e., *dorsum of hand or wrist; use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Injectable Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of diazepam, *i.e.*, phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE. Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE: Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia.

In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL. *Adults:* Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche) tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease capsules (15 to 30 mg) daily. Acute alcohol withdrawal—tablets, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 capsules (30 mg) the first 24 hours, then 1 capsule (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—tablets, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily. Adjunctively in convulsive disorders—tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily.

Geriatric or debilitated patients: Tablets—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children: Tablets—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose (not for use in children under 6 months).

INJECTABLE: Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.)

For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., *dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children *administer I.V. slowly*; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg adult dose administered slowly, repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. Infants (over 30 days) and children (under 5 years), 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). Children 5 years plus, 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levarterenol or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL: Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules—15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

INJECTABLE: Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.

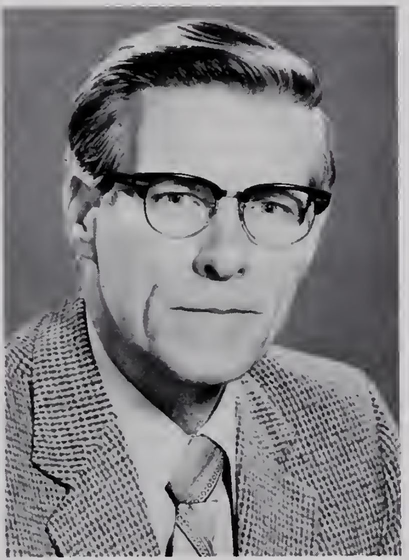
ROCHE®

President's Message

So you think you have a good idea to improve our world. State it carefully. Examine it for incentives that will make it work and for incentives that will make it fail. Is it just a wishful "good idea" people should follow without incentives? Will it change the things that need to be changed and not change things you don't intend to change?

So the legislature passes a particular bill with good intent. It then goes to regulation writers to detail how the bill will be implemented. And after the regulations are made, I can't believe they are what the legislators had in mind. So who controls the regulation writers? Is there a way other than not funding the project?

Health and Human Services (HHS) sponsored a well-intended bill that would protect all completely handicapped newborns. But who is to fund the continuing support the law demands? The parents have been robbed of their voice in the matter. A federal judge has suspended implementation while it is being appealed. When an inflexible law or regulation is adopted, the patient, his family and involved professionals are deprived of judgment and mercy, since the law is assumed to be more just. They have been told that they are not competent enough to handle their personal and financial affairs. And the law applies to all levels of society and to all levels of function.


Ronald A. Youmans, M.D.

Also, Health Care Financing Administration (HCFA) is developing appropriate minimal standards for hospitals not accredited by the Joint Commission on Accreditation of Hospitals. The current "Conditions for Participating" in the Medicaid Program has functioned for 17 years for these 1,500 small, rural hospitals. Among the proposed changes of the definition of "physician in charge" is the definition used in the Social Security Act 1861 (r) that includes doctors of medicine and osteopathy, dentists, podiatrists, optometrists and chiropractors.

The extended definition seems illogical. The present definition is adequate. Patients should be admitted only by, or with the concurrence, of a fully licensed physician (M.D. or D.O.) in accordance with the medical staff bylaws.

Health care costs once included the physician, the patient and often the pharmacist. In an attempt to save expenses, third party payors were developed by contract and insurance. Thus, the patient is deprived of his part in deciding how much medical care is needed and of his financial responsibility in seeing how carefully his money is spent. It has been my observation that the Third Party Payor has been a generous spender whether it is a government agency or one of the insurance companies with large computers, lots of employees and often lovely big buildings. This seemed too expensive, so other government agencies (at a cost to all of us) have been developed to watch and continually change rules and regulations and the payments.

Our passing-system of Third Party Payor now envisioned by labor leaders and legislators has removed incentives to economize, while "defensive" and expensive medical practice has been encouraged. These factors have effectively deprived our patients of the right to manage their finances and from being fully aware of what the health care system is costing. It has restricted their participation in health care decisions.

Do you suppose health care costs would be less if the patient and his physician do the job? This would allow the patient to regain the dignity of participating in his health care decisions and encourage closer attention to personal responsibility in his own medical care and finances. Even a 5% cost participation would encourage more thoughtful action by the patients and allow them the dignity of helping to decide when optional expenses should be made. But I don't see many votes there and if it doesn't cost me directly, it's free!!

MSMA Auxiliary

With the beginning of a new auxiliary year, we all had new experiences at the 1983 MSMA and Auxiliary Conventions at Tan-Tar-A. Among them were the earlier convention date, the new site, the joint reception for the presidents-elect of the Association and Auxiliary, and the buffet dinner for the Annual Benefit Auction.

Mrs. Donald Sanders
President

As we begin this year, membership and legislation are two areas that continue to consume our thoughts and time. What are the best ways in which we can approach and implement these programs that are beneficial to the organization and the health care in our communities? We hope to have the answers before the year is over.

An intergenerational program also should be of concern to us. We need to bring together our young people and senior citizens, to establish helpful programs using talents that are lying dormant or being wasted, to bring about a new understanding and respect for each other and to create a special bond and help to eliminate fears.

The AMA Auxiliary has asked the MSMA Auxiliary to help with two separate programs:

1. *Patient Medication Instruction Program (PMI)*. PMIs are easy-to-read, easy-to-understand forms. They are available at the present time for 20 of the most commonly prescribed drugs with 40 more to be available by the end of 1983 and an additional 40 sometime in 1984. These are available to physicians through the AMA Headquarters office. It is the hope that they will be easier for the patient to understand.

2. *Immunization for such diseases as measles, mumps and rubella*. Immunization speaks for itself in what it has done to reduce the frequency of certain diseases. At present, the Center for Disease Control feels that we are within reach of eliminating measles. Let's help to *"Keep Measles a Memory – Immunize!"*

As you can see, our goal is to continue programs underway and implement new ones. What better way to maintain continuity than to continue worthwhile and helpful projects.

Many of our county auxiliaries are involved in improving health care through CPR, Meals-on-Wheels, drug use prevention health fairs for children, fund raising for special purposes such as scholarships, medical research and medical schools, and other health-related community needs.

This year, we hope to do even better as we "Reach Out and Touch" those in our communities and those of our own in special need.

Keep Measles A Memory – Immunize!

Guest Editorial

ARE WE SAFE NOW?

I heard some doctors talking the other day and one said he hoped we could breathe a little easier now with Ted Kennedy temporarily out of the running. Of course, the speaker was referring to the threat personified by Senator Kennedy to the private practice of medicine. I fear, however, that we ourselves pose a far greater threat to the preservation of that system than the Senator. Private practice in this country has endured thus far, I believe, for two basic reasons. Firstly, patients have traditionally had a personal relationship with their doctor and, secondly, have recognized that doctor's services to them as both valuable and affordable.

In my present position as a full time emergency physician, I frequently have the opportunity to hear what patients say about their relationship with their doctor. I think we are in big trouble. The traditional doctor-patient relationship is crumbling and medical care costs are rapidly approaching unaffordable levels.

What is wrong with the doctor-patient relationship? Why, for instance, do many patients appear in the emergency room with problems that would more appropriately be handled by their physician at his office or sometimes elsewhere? It is not always just a matter of their own convenience. Patients are too often unable to reach or communicate with their doctors. Too often, we see patients coming to the emergency room after their physican has already seen them for a problem and they perceive that problem to be unimproved. They haven't gone back to the doctor because they didn't understand what follow up, if any, they were expected to have; or they couldn't get through the secretary or receptionist or nurse to speak to the doctor; or they hadn't been told what to expect from their illness; or the doctor was out and another doctor was taking his calls (but for emergencies only as it turns out). If the doctor-patient relationship is to survive, the doctor must be accessible to the patient and must make or take the time to communicate with him. The patient must have the message as to what the problem is; what the treatment is; what the expected course is; what to do if there is variance from that expected course, and when or under what circumstances he should be seen again. Doctors need to know what their receptionists and nurses are telling patients. The bottom line is that I am encountering more and more patients who, though they have been seen by and have records with one or more physicians, do not consider that they, in fact, have a personal physician.

How affordable is medical care? When doctors discuss this subject, they usually emphasize that the physicians' fee is only a small part of the cost of medical care. It may be only a small part, but it is too often not small. As a member of the St. Louis Blue Shield Board of Trustees, I have witnessed the need for never-ending dues increases to cover the increased cost and numbers of physician services considerably in excess of annual inflation rates and in the face of declining membership in the plan as individuals and employers are simply unable to afford prepaid health care.

Again, as an emergency physician, I am distressed by the number of poor people on Medicaid who are literally denied access to routine medical care, but I am also distressed by an increasing number of working people who end up with emergency or crisis problems that could often have been prevented by routine medical care which they felt they couldn't afford. I have often worried about the high cost of emergency room care, but can report to you that the professional component of emergency care at our hospital and with the most recent adjustment of professional charges averaged $33.81 per patient. I had occasion recently to see the bill of a patient who underwent a very common outpatient diagnostic procedure. The physican's fee for this 15-minute or less procedure, exclusive of the facility charge and the anesthesiologist's fee, was roughly equivalent to the professional component charges for a hypothetical critically-injured emergency room patient receiving an extended attendance at the bedside, with performance of a cricothyrotomy, the insertion of a chest tube, the placement of a central venous line, and the performance of a diagnostic peritoneal lavage. Do things seem balanced? Are private physician's fees affordable?

Medicine is a skilled profession, requiring years of preparation at great cost, but, I fear many physicians seem preoccupied with what that profession means in terms of the rapid acquisition of the luxuries of life. I daresay, there are far more luxury items on display by physicians than probably any other group in this community, and this is often by physicians who are in the early years of their practices. The public doesn't resent physicians being well paid for their valuable services and thus becoming eventually well to do, but I think they rightfully resent doctors rapidly becoming wealthy by virtue of performing high-priced procedures without establishing and maintaining a trusting, caring relationship with their patients.

No, don't believe that Ted's withdrawal from the 1984 Presidential race will mean an end to efforts to achieve nationalization of health care. Let it simply be my prayer that we ourselves are not the primary movers of the public to that end.

Edwin K. Burford, M.D.
Cape Girardeau

— Reprinted with permission from the January, 1983 issue of the *Cape County Medical Journal*

NEWS About Our Members

Dr. Richard Heimburger, a reconstructive and plastic surgeon at St. Mary's Health Center in Jefferson City, has been named "Physician of the Year" by the Governor's Committee on Employment of the Handicapped. He received his award from Gov. Christopher H. Bond recently at ceremonies held in Jefferson City. Dr. Heimburger has served on this Committee from 1977 through 1981. Most recently, he has been chairman of the Section on Plastic and Reconstructive Surgery for the Southern Medical Association. A member of the staff of several hospitals, Dr. Heimburger also was president of the Columbia Committee of Employment of the Handicapped in 1981-1982, is a member of the American Association for Hand Surgery and chairman of the board of Opportunities Unlimited, an independent living center. In addition, Dr. Heimburger has been a board member of the Mid-Missouri Barrier-Free Housing organization.

Dr. E. A. Wilkinson, Kansas City, was honored recently at a reception at the Bates County Memorial Hospital where he had been a member of the consulting surgical staff for 35 years. The occasion marked Dr. Wilkinson's retirement after 54 years in the practice of medicine. On behalf of the medical and hospital staff, **Dr. Curtis Long** of Butler, chief of staff at the hospital, presented Dr. Wilkinson with a golf bag and companion satchel. A large crowd of Dr. Wilkinson's colleagues, former patients and friends attended the event.

In response to contacts made by the Jackson County Medical Society Auxiliary, Mayor Richard L. Berkley of Kansas City issued a proclamation declaring March 30, 1983 "Doctors' Day." City Health Director **Richard M. Biery,** representing the mayor, presented the proclamation document to **Dr. R. Stacy Long,** president of the Medical Society. Present for the ceremony were *(l to r)* **Dr. Ronald A. Youmans,** president of the Missouri State Medical Association; **Mrs. Donald C. Sanders,** president of the MSMA Auxiliary; **Doctor Long; Doctor Biery; Dr. Dorothy D. Reister,** MSMA Vice-Councilor and JCMS secretary; and **Mrs. Martin L. Crow,** chairman of the Auxiliary's Doctors' Day Committee.

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J-9043-4 July 1981

The abused child will grow up someday. Maybe.

Each year, over one million American children suffer from child abuse. And over 2,000 children die from it.

But what about those who survive?

Statistics show that an abused childhood can affect a person's entire life.

Many teenage drug addicts and many teenage prostitutes report being abused children. So do juvenile delinquents and adult criminals.

Yet child abuse *can* be prevented.

The National Committee for Prevention of Child Abuse is a private, charitable organization that knows how to prevent child abuse.

But we need your help to do it.

We need your money. We need more volunteers.

Send us your check today, or write for our booklet.

Because if we don't all start somewhere, we won't get anywhere.

National Committee for Prevention of Child Abuse

Help us get to the heart of the problem.

Write: Prevent Child Abuse, Box 2866, Chicago, Illinois 60690

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MSMA Members Receive Physician's Recognition Award

Thirty-four MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the period ending in March, 1983.

The award is a voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in Missouri Medicine as they are received from the AMA.

John B. Arthaud, Columbia
William F. Birkby, Columbia
Ross D. Blades, Springfield
Arthur L. Brock, Independence
Jon E. Browne, Kansas City
John A. Carrier, Kirkwood
Robert A. Chandler, Kansas City
John P. Christy, Poplar Bluff
Robert L. Dever, Poplar Bluff
Desmion M. Dizney, Maryville
Edward P. Feutz, Clayton
Jose M. Fischer, North Kansas City
Theodore W. Garrison, Camdenton
Edward P. Gutek, Kansas City
Antonia J. Guzman, Dexter
Generoso R. Guzman, Dexter
William P. Hamilton, Aurora
Donald B. Holley, Camdenton
Robert B. Holloway, St. Louis
Keith D. Jones, Warrensburg
Scotty D. Jones, St. Louis
Steven A. Lauter, St. Louis
Gene H. Leroux, Doniphan
William Levanvo, Joplin
Martin J. Mueller, Kansas City
Manuel I. Navarro, Columbia
Esperanza M. Pimentel, St. Louis
Mauricio F. Pimentel, St. Louis
Kenneth C. Place, Kansas City
Charles L. Puckett, Columbia
Thomas A. Schneider, St. Charles
Milton Shoss, Cape Girardeau
James R. Waltz, Kearney
Ernest E. Weinand, St. Joseph
Wilfred E. Wooldridge, Springfield

NEWS About CME Events

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
Contact: **Alta Bingham**

June 4	Symposium on Physical Fitness (Crown Center Hotel)
Sept. 23-24	The Long Weekend (Alameda Plaza Hotel)
Nov. 3-5	Annual Fall Clinical Conference — Kansas City Southwest Clinical Society (Alameda Plaza Hotel)
Dec. 8-10	The Heart 1983 (Alameda Plaza Hotel)
(1984)	
Jan. 14-21	Traveling Medical Education Course K.C. Southwest Clinical Society (Steamboat Springs, Colo.)
Feb. 11-18	Traveling Medical Education Course K.C. Southwest Clinical Society (Hawaii-Tentative)
Feb. 24-25	The Long Weekend (Westin Crown Center Hotel)
Mar. 15-17	Perspectives in Medical Care (Alameda Plaza Hotel)
Mar. 17-24	Traveling Medical Education Course (Colorado-Tentative)
April 12-14	Update in Obstetrics-Gynecology (Alameda Plaza Hotel)

Menorah Medical Center
4949 Rockhill Rd., Kansas City 64110
(816) 276-8000
Contact: **Erich W. Pollak, M.D., Director of Surgical Education, for the following:**

4:00 PM — Basic Sciences to Surgery Seminar
(Monday through Friday)

3:00 PM — Surgical Rounds
(Every Wednesday and Friday)

4:00 PM — Surgical Techniques Seminar
(Every second and fourth Wednesday)

4:45 PM — Morbidity and Mortality Conference
(Every fourth Wednesday)

8:00 AM — Morbidity and Mortality Conference
(Every second Saturday)

7:00 AM — Surgical Grand Rounds
(First and third Thursdays)

Contact: **David S. Sneid, M.D., Director of Medical Education, for the following:**

9:00 AM — Medicine Staff Conference
(First, third and fourth Tuesdays)

> *The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in* MISSOURI MEDICINE. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

St. Louis University Medical Center
Dept. of Orthopedic Surgery
1325 S. Grand Blvd.

Oct. 29-30	Spinal Disorders in Children

Cardinal Glennon Memorial Hospital for Children
1465 S. Grand Blvd., St. Louis 63104
(314) 577-5000

June 4	Pediatric Ophthalmology and Strabismus for the Non-Ophthalmologist — (A course designed for pediatricians, family practitioners and other health professionals.)
June 15-17	Updating Skills and Knowledge in Neonatology Combined With A Fun Family Vacation in the Ozarks (For Pediatricians and Family Practice Physicians) (Tan-Tar-A, Osage Beach)

University of Missouri-Columbia School of Medicine Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
Contact: **William D. Bradshaw, M.D., Director**

Aug. 6, 7	Sixth Annual Soft Tissue Surgery Workshop (St. Louis)
Oct. 20-22	Fifth Annual Advances in Rheumatology Symposium (Columbia)
Nov. 4, 5	26th Annual Physicians Weekend (Columbia)

Missouri Chapter, American College of Surgeons, Inc.
P.O. Box 4562, Springfield 65808
Contact: **Linda Whelan, Executive Secretary**
(417) 887-1970

June 17-18	1983 Annual Professional Meeting Lodge of the Four Seasons, Lake of the Ozarks

The Ed Bixby Institute Research Medical Center
2316 E. Meyer Blvd., Kansas City 64132
(816) 276-4306
Contact: Jane L. Jackson, Director of Seminars

June 1	Pulmonary Disease: Critical Care
Aug. 3	New Radiology Techniques

The Jewish Hospital of St. Louis
216 S. Kingshighway, P.O. Box 1419, St. Louis 63178
Contact: Alan P. Lyss, M.D., (314) 454-7463

The Maryilyn Fixman Clinical Cancer Conference

June 15	Testicular Carcinoma

Bethesda Eye Institute
Ophthalmology Department
St. Louis University School of Medicine
3655 Vista Lane, St. Louis 63110
Contact: Monica A. Cauley, (314) 772-9200, Ext. 395

May 19-20	Oculoplastics Workshop

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 367-9673
Contact: Loretta Giacoletto, Office of CME

Oct. 26-Nov. 4	Clinical Allergy for the Practicing Physicians (Paris and Montpellier, France)
Nov. 11-13	Tenth Annual Symposium: Anesthesia and The Geriatric Patient (Contact: Dept. of Anesthesiology — 314-454-2858)

American Burn Association
Saint Elizabeth Community Health Center
555 South 70th, Lincoln, Neb. 68510
Contact: Robert W. Gillespie, M.D.

Sept. 16-17	Comprehensive Care of the Burn Patient (Hyatt Regency Hotel, Kansas City)

Correction Please!

Please disregard the listing of a seminar on "Spinal Disorders in Children" on October 29-30 at the St. Louis University Medical Center that appeared in the March issue.

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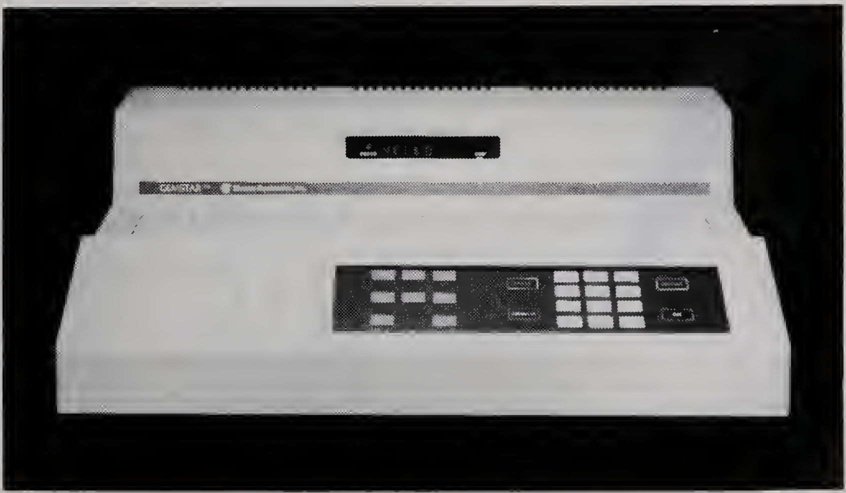

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NEWS From the Medical Schools

WASHINGTON UNIVERSITY

Henry G. Schwartz, M.D., August A. Busch Jr., Professor of Neurological Surgery at the School of Medicine, has received the Award of Merit from the St. Louis Metropolitan Medical Society.

The award is the society's highest honor, and is presented only when the awards and honors committee knows of a deserving recipient. The society recognized Dr. Schwartz for "outstanding contributions to medicine."

An internationally recognized observer of trends in science delivered the third Estelle Brodman Lecture on April 12 at the School of Medicine in St. Louis.

Derek de Solla Price, Ph.D., Avalon Professor of History of Science at Yale University, presented the lecture titled "Citation Mapping, Computers and Artificial Intelligence." The Brodman Lecture is sponsored each year by the medical school library.

Dr. Price specializes in the history of science and technology and in the growth and development of scientific publications. He also has monitored the rapid growth of science by identifying and manning papers published in emerging scientific disciplines.

Among Dr. Price's international honors are the Leonardo da Vinci Medal from the Society for the History of Technology, and the J. D. Bernal Award from the Society for Social Studies of Science.

The public relations office of the School of Medicine hosted the annual conference of the Association of American Medical Colleges (AAMC) Group of Public Affairs on April 27-29.

"Horizons '83" was the theme for the AAMC's Midwest/Great Plains regional meeting.

Professionals from the St. Louis area and from throughout the United States spoke at the meeting, according to *Glenda Rosenthal*, director of medical public relations at Washington University and Midwest regional chairman for the AAMC Group on Public Affairs. Sessions included "Animal Rights . . . Or Wrongs," "Having It All — Marketing Your Institution," "Medical Reporting: Responsible Press or Media Malpractice," "Major Gifts: The Answer in the '80s," "Radio Programming: A Sound Move," "Communicating With Your Alumni" and "Academic Health Centers: Financing for the Future."

Participants visited the St. Louis Medical Society's Museum of Quackery, had dinner on the Belle Angeline and lunch in the Queeny Tower Restaurant, where they were addressed by *Samuel B. Guze*, M.D., vice-chancellor for medical affairs at Washington University School of Medicine.

The AAMC's Group on Public Affairs is designed to improve public understanding of the problems and progress in medical education, health care and biomedical research.

UNIVERSITY OF MISSOURI-KANSAS CITY

Officials from the University of Seville, Spain, visited the School of Medicine and the campus in April, when they signed their first foreign exchange program agreement with a U. S. university. *Luis Urunuela*, the mayor of Seville, and his wife; and *Guillermo Jimenez*, the rector of the University of Seville; and *Manuel Gonzalez*, the vice-rector, were introduced to the School of Medicine faculty and were given a tour of the School. The agreement will allow students and faculty to spend time at each university.

Dr. Marjorie Sirridge, docent and professor of medicine, has been named Alumnus of the Year by the University of Kansas Medical Alumni Association. The first woman ever to be so honored by Kansas University, she shares the award with *Dr. Sloan J. Wilson*. Dr. Sirridge has been either a docent or senior docent since joining the UMKC faculty in 1971. She is a member of several University and hospital committees and in 1981 was named consultant professor at the Shanghai Second Medical College in Shanghai, China.

Graduation week activities are being planned for the week of May 30, beginning that day with a performance by medical students of the musical, "Pippin." The annual senior banquet will be on May 31, when the School's "Not Serious" prizes will be awarded. This year marks the first alumni reunion and scientific seminar for graduates of the School on June 2. Later that day, the Hospital Hill Health Services Corporation will again sponsor a cocktail party for the graduating class and alumni. On Friday, June 3, the School of Medicine will have its first separate commencement. Earlier that day, *Dr. Daniel Tosteson*, dean of the Harvard Medical School, will deliver the annual Carl Migliazzo Memorial Lecture on "Science, Medicine and Education."

Bob Batterson, a second-year medical student, was elected regional trustee for a seven-state region of the American Medical Student Association (AMSA) at its national convention in March in Cleveland. Mr. Batterson is president of the UMKC chapter of AMSA. He and *Karen Myers*, third-year student, attended the meeting as UMKC delegates. Ms. Myers also serves as regional coordinator of the medical education committee of AMSA.

Medical students *Mike Funderburk, Jane Reardon, Tom Reardon* and *Ann Hellerstein* were elected to state membership and/or offices for students at the 125th annual meeting of the Missouri State Medical Association. *Dean Harry S. Jonas* attended the meeting as a MSMA delegate and accepted a check for $5,767 for loans, educational programs and travel expenses for meetings from the American Medical Association Educational Research Foundation (AMA/ERF).

The School of Medicine, in cooperation with the Kansas City Area Hospital Association and Hospice Care of Mid-America, Inc., televised a teleconference on March 22 from the television studio of the medical school. The program, "Terminal Care: The Needs of the Family," was the first live interactive teleconference among Kansas City hospitals. The one-hour show was transmitted to Truman Medical Center, St. Mary's Hospital, St. Luke's Hospital, Trinity Lutheran Hospital, the Rehabilitation Institute, the Veterans Administration Hospital, Baptist Memorial Hospital, the University of Kansas Medical Center and Lawrence Memorial Hospital in Lawrence, Kan.

ST. LOUIS UNIVERSITY

Kenneth Smith, Jr., M.D., professor and director, Division of Neurosurgery, Department of Surgery, has been installed as the president of the St. Louis Metropolitan Medical Society. He is the fifth president of the Society, which was formed in 1979 by the consolidation of the St. Louis and St. Louis County medical societies.

Dr. Smith stressed that his priorities as president of the society include helping provide health care for the poor, discouraging smoking, continuing the battle against drunken driving and "doing everything in our power to see that nuclear weapons are never used."

Geno Saccomanno, Ph.D., M.D., alumnus of St. Louis University School of Medicine and winner of the American Society of Cytology's Papanicolaou Award, will give the second annual Eli Nadel Lecture in Pathology. Dr. Saccomanno's lecture is titled "Cytology in the Early Diagnosis of Lung Cancer."

Dr. Saccomanno is also the recipient of the American Cancer Society's National Service Award for Significant Contribution to Cancer Research in 1981. His work centered on the development of lung cancer in uranium miners. He is the recipient of the St. Louis University's Alumni Merit Award and has worked at St. Mary's Hospital and Veterans Administration Medical Center in Grand Junction, Colo., since 1948.

The Nadel Lecture was on May 2 at the Margaret McCormick Doisy Learning Resources Center at the Medical Center.

Medical students from the School of Medicine provided free physical examinations to underprivileged children recently at John Cochran Veterans Administration Medical Center in St. Louis. The event was sponsored by the Phi Delta Epsilon medical fraternity and was supervised by *Raymond G. Slavin*, M.D., professor of internal medicine.

The annual check-ups are for children tutored by Morro House and Full Achievement, student organizations at St. Louis University involved in instructing children throughout the year. Tests included blood pressure screening, urinalysis, blood testing and a vision check.

UNIVERSITY OF MISSOURI-COLUMBIA

William D. Bradshaw, M.D., associate professor of family and community medicine, has been named interim dean of the University of Missouri-Columbia School of Medicine. His appointment became effective May 1.

Dr. Bradshaw replaces *Dr. Charles C. Lobeck* who announced his decision to step down last December after more than seven years as dean. A search committee will be named soon to locate a permanent successor to Dean Lobeck.

Dr. Bradshaw received his B.S. degree with honors from Central Missouri State College in 1950. He attended the UMC School of Medicine, which then offered a two-year Bachelor of Medicine degree, from 1950 to 1952. In 1954, he received his M.D. degree from the University of

Kansas School of Medicine.

In 1976, he joined the UMC faculty as an associate professor and director of the school's Continuing Education and Extension for Health Professionals program. In addition to his many professional duties, Dr. Bradshaw is involved in a variety of community activities.

"I am very pleased to have been chosen interim dean at what many feel is a critical period for the School of Medicine. In such times of transition, we must not lose sight of our goal to make the School an even more valuable resource for the people of Missouri," Dr. Bradshaw said.

Dean Charles Lobeck was joined by Gov. Christopher Bond, University of Missouri President James Olson and Chancellor Barbara Uehling on April 13 for ceremonies marking the beginning of work on the new $9.5 million Health Sciences Library and School of Medicine addition.

Two "temporary World War II barracks buildings will be razed to make room for the new structure. Referring to the process as "destructive rehabilitation," Dean Lobeck commented that he has hoped to see the wooden buildings replaced by a new facility.

The need for a new Health Sciences library was recognized in the 1970s. *Dr. Otto Lottes*, a retired St. Louis orthopedic surgeon and UMC alumnus, donated land worth $1,000,000 to the Health Sciences library campaign. More than 750 other individuals, School of Medicine alumni and institutions contributed to the fund.

The new three-story library will include more than 24,000 square feet of open collections and user space. The four-story addition to the School of Medicine will be connected to the northern wing of the present structure. The building will primarily house offices.

James M. A. Weiss, M.D., professor and chairman of the Department of Psychiatry, was one of 22 mental health administrators selected nationally to take part in the National Institute of Mental Health Staff College Leadership Conference held recently in Phoenix, Ariz. Following the conference, he served as a visiting professor at the University of Arizona Medical Center.

For the second successive year, Dr. Weiss has received the Distinguished Service Commendation of the National Council of Community Mental Health Centers. Dr. Weiss was cited for his teaching and research and his editorial contributions to the Community Mental Health Journal.

Bruce E. Harry, M.D., assistant professor of psychiatry, presented a paper on "The Forensic Psychiatrist's Evaluation of Deaf Offenders" at the 35th annual meeting of the American Academy of Forensic Science held recently in Cincinnati, Ohio.

A graduate of the UMC School of Medicine, Dr. Harry is frequently called upon to testify in cases involving deaf offenders. Prior to joining the faculty in June, 1982, he was an instructor in psychiatry at the Harvard Medical School and assistant psychiatrist at McLean Hospital, Belmont, Mass.

Dr. Allan W. Jones, professor of physiology, has been named interim chairman of the School of Medicine's Department of Physiology. Dr. Jones has been a member of the faculty since 1972.

After receiving a bachelor of science degree in chemical engineering from Princeton University in 1959, Dr. Jones attended the University of Pennsylvania where he earned a Ph.D. degree in physiology in 1965. He has held academic positions at the University of Pennsylvania, the University of Oxford, England and was associate director of the University of Pennsylvania's Bockus Research Institute.

A member of the editorial board of the journal *Hypertension*, Dr. Jones has presented invited papers on his hypertension studies at numerous symposiums in the U. S. and abroad. His work is funded by the NIH.

Hyun Dju Kim, Ph.D., will become the chairman of the School of Medicine's Pharmacology Department effective June 1, 1983. Dr. Kim is currently professor of pharmacology at the University of Alabama Medical Center in Birmingham.

Dr. Kim received his A.B. degree in chemistry in 1962, his Ph.D. degree in physiology in 1968, both from Duke University. Before joining the University of Alabama, he was a faculty member at the University of Arizona in Tucson, from 1972 to 1979.

In addition to laboratory investigation on such topics as membrane transport and metabolism in red blood cells, and insulin receptor functions in myocytes and erythrocytes, Dr. Kim has served as an expedition scientist on studies of the Galapagos Archipelago, the Amazon and the Great Barrier Reef.

Dr. Kim's current research projects include an NIH-funded study of membrane-limited metabolism in mammalian red cells and investigation of alveolar macrophage metabolism and phagocytosis for the American Lung Association.

In Memoriam

Roy P. Royse, M.D., 316 Elm, Sullivan 63080; graduate of St. Louis University, 1925; member of Franklin-Gasconade-Warren County Medical Society; aged 85; died Feb. 17, 1983.

William Jolly, M.D., 112 N. Clark, Mexico 65265; graduate of Washington University, 1944; member of Audrain County Medical Society; aged 62; died Feb. 22, 1983.

Joseph C. Peden, Sr., M.D., 665 S. Skinker, Apt. 7D, St. Louis 63105; graduate of St. Louis University, 1915; member of St. Louis Metropolitan Medical Society; aged 90; died March 1, 1983.

Belmont B. Gummels, M.D., 718 Florence Ave., St. Louis 63119; graduate of St. Louis University, 1930; member of St. Louis Metropolitan Medical Society; aged 77; died March 9, 1983.

Paul A. Roberts, M.D., 110 W. Marshall, Sweet Springs 65351; graduate of Western Reserve University, 1952; member of Pettis County Medical Society; aged 62; died March 9, 1983.

Herman M. Meyer, M.D., 665 S. Skinker, Apt 7H, St. Louis 63105; graduate of Washington University, 1920; member of St. Louis Metropolitan Medical Society, aged 86; died March 28, 1983.

Campbell C. McCullough, Jr., M.D., P. O. Box 78, Oak Grove 64075; graduate of University of California-San Francisco, 1942; member of Jackson County Medical Society; aged 65; died April 1, 1983.

Harry Cutler, M.D., 141 N. Meramec, St. Louis 63105; graduate of St. Louis University, 1930; member of St. Louis Metropolitan Medical Society; aged 75; died April 2, 1983.

Marianne Kuttner-Gronau, M.D., 7062 Waterman, St. Louis 63130; graduate of Med Fakultat Der Johann Wolfgang Goethe University, Frankfurt, 1931; member of St. Louis Metropolitan Medical Society; aged 77; died April 3, 1983.

References:
1. Stone PH, Turi ZG, Muller JE Efficacy of nifedipine therapy for refractory angina pectoris *Am Heart J* 104 672-681, September 1982
2. Antman E, Muller J, Goldberg S, et al Nifedipine therapy for coronary-artery spasm: Experience in 127 patients. *N Engl J Med* 302 1269-1273, June 5, 1980.

BRIEF SUMMARY
PROCARDIA® (nifedipine) **CAPSULES** For Oral Use

INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e g , where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and or adequate doses of beta blockers

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs (See Warnings)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA

WARNINGS: **Excessive Hypotension**: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA Patients with tight aortic stenosis may be at greater risk for such an event

PRECAUTIONS: **General**: **Hypotension**: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested Close observation is especially recommended for patients already taking medications that are known to lower blood pressure (See Warnings)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA This edema occurs primarily in the lower extremities and usually responds to diuretic therapy With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents. (See Indications and Warnings) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina

Long-acting nitrates PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination

Digitalis Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers The average increase was 45% Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization

Carcinogenesis, mutagenesis, impairment of fertility When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose

Pregnancy Category C Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0 5% Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication Additionally the following have been reported muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients It remains possible, however, that some or many of these events were drug related Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2% Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0 5% of patients

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy The relationship to PROCARDIA therapy is uncertain These laboratory abnormalities have rarely been associated with clinical symptoms Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container

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"I can do things that I couldn't do for 3 yrs. including joining the human race again."

Quotes from an unsolicited letter received by Pfizer from an angina patient
While this patient's experience is representative of many unsolicited comments received, not all patients will respond to Procardia nor will they all respond to the same degree

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"My daily routine consisted of sitting in my chair trying to stay alive."

"My doctor switched me to PROCARDIA[*] as soon as it became available. The change in my condition is remarkable."

"I shop, cook and can plant flowers again."

"I have been able to do volunteer work...and feel needed and useful once again."

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks,[1] taking fewer nitroglycerin tablets,[2] doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).

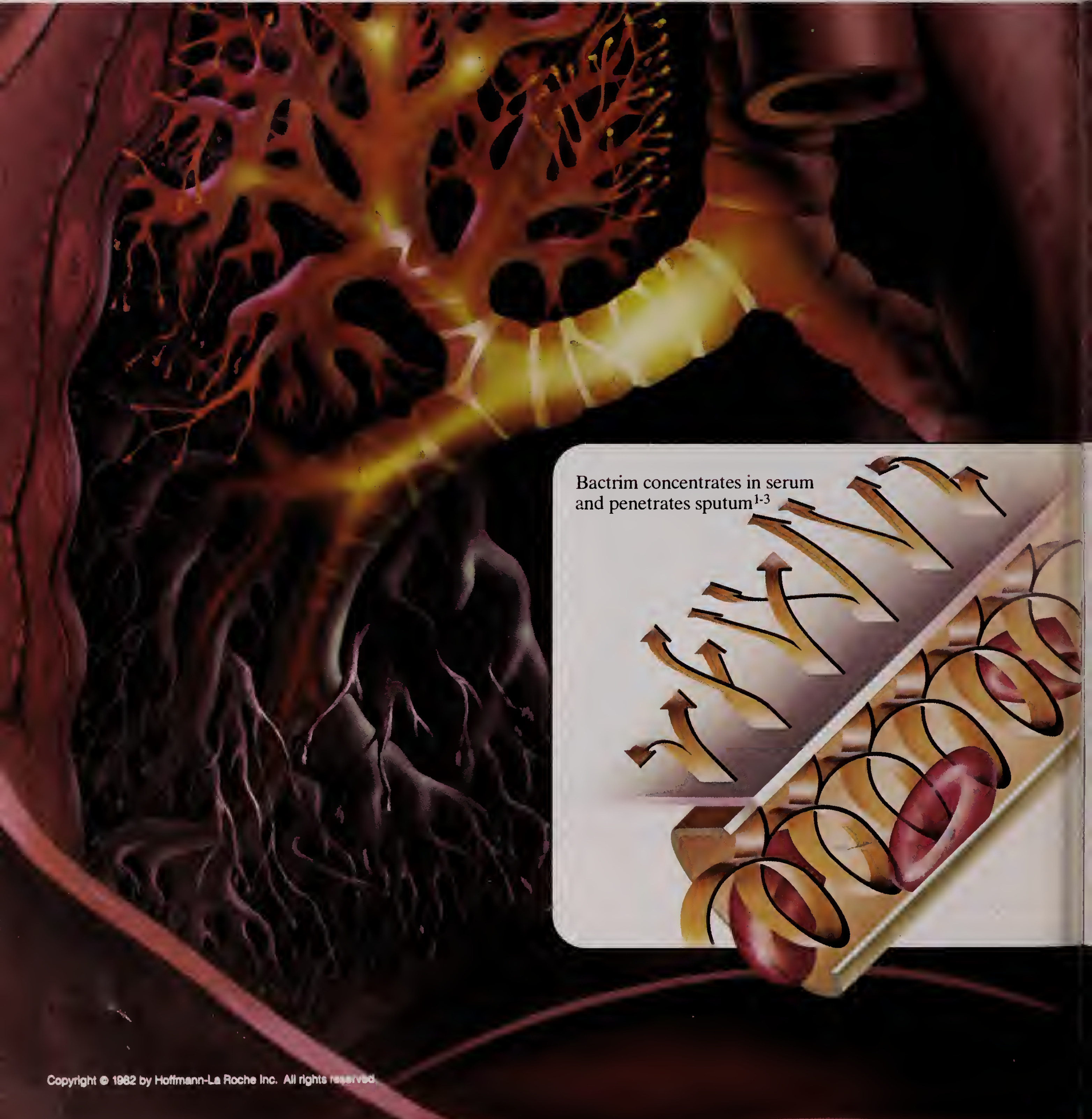
for the varied faces of angina

PROCARDIA®
(NIFEDIPINE) Capsules 10 mg

*Procardia is indicated for the management of:
1) Confirmed vasospastic angina.
2) Angina where the clinical presentation suggests a possible vasospastic component.
3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA *brief summary on adjoining page.*

Bactrim™ attacks the
(trimethoprim and sulfamethoxazole/Roche)
in acute exacerbations



Bactrim concentrates in serum and penetrates sputum[1-3]

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ROCHE®

major pathogens of chronic bronchitis*

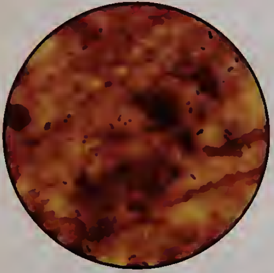
Bactrim clears sputum of susceptible bacteria

In sputum cultures from patients with acute exacerbations of chronic bronchitis, *H. influenzae* and *S. pneumoniae* are isolated more often than any other pathogens.[4,5] One study of transtracheal aspirates from 76 patients with acute exacerbations found that 80% of the isolates were of these two pathogens.[5]

Bactrim is effective *in vitro* against most strains of both *S. pneumoniae* and *H. influenzae*—even ampicillin-resistant strains. And in acute exacerbations of chronic bronchitis involving these two pathogens, sputum cultures taken seven days after a two-week course of therapy showed that Bactrim eradicated these bacteria in 91% (50 of 55) of the patients treated.[6]

attacks *H. influenzae*—even ampicillin-resistant strains

attacks *S. pneumoniae*



Bactrim reduces coughing and sputum production

In three double-blind comparisons with ampicillin *q.i.d.*, Bactrim DS proved equally effective on all clinical parameters.[7-9] Bactrim reduced the frequency and severity of coughing, reduced the amount of sputum produced and cleared the sputum of purulence.

Bactrim has the added advantages of *b.i.d.* dosage convenience and a lower incidence of diarrhea than with ampicillin, and it is useful in patients allergic to penicillins.

Bactrim also proved more effective than tetracyclines in 10 clinical trials involving nearly 700 patients.[10] Overall clinical condition of the patients, changes in sputum purulence, reduction in sputum volume and microbiological clearance of pathogens—all improved more with Bactrim therapy than with tetracyclines. G.I. side effects occurred in only 7% of patients treated with Bactrim compared with 12% of tetracycline-treated patients. (See Adverse Reactions in summary of product information on next page.)

Bactrim is contraindicated in pregnancy at term and nursing mothers, infants under two months of age, documented megaloblastic anemia due to folate deficiency and hypersensitivity.

Bactrim DS. For acute exacerbations of chronic bronchitis in adults* when it offers an advantage over single-agent antibacterials.

References: 1. Hughes DTD, Bye A, Hodder P: *Adv Antimicrob Antineoplastic Chemother 1/2*:1105-1106, 1971. **2.** Jordan GW *et al: Can Med Assoc J 112*:91S-95S, Jun 14, 1975. **3.** Beck H, Pechere JC: *Prog Antimicrob Anticancer Chemother 1*:663-667, 1969. **4.** Quintiliani R: Microbiological and therapeutic considerations in exacerbations of chronic bronchitis, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts;* Princeton Junction, NJ, Communications Media for Education, Inc., 1980, pp. 9-12. **5.** Schreiner A *et al: Infection 6*(2):54-56, 1978. **6.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **7.** Chodosh S: Treatment of acute exacerbations of chronic bronchitis: results of a double-blind crossover clinical trial, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts. Op. cit.*, pp. 15-16. **8.** Chervinsky P: Double-blind clinical comparisons between trimethoprim-sulfamethoxazole (Bactrim™) and ampicillin in the treatment of bronchitic exacerbations. *Ibid.*, pp. 17-18. **9.** Dulfano MJ: Trimethoprim-sulfamethoxazole vs. ampicillin in the treatment of exacerbations of chronic bronchitis. *Ibid.*, pp. 19-20. **10.** Medici TC: Trimethoprim-sulfamethoxazole (Bactrim™) in treating acute exacerbations of chronic bronchitis: summary of European clinical experience. *Ibid.*, pp. 13-14.

Economical b.i.d.

Bactrim™ DS

(160 mg trimethoprim and 800 mg sulfamethoxazole/Roche)

*Due to susceptible organisms. **Please see next page for summary of product information.**

Bactrim™

(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii.* It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets,* each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100; Prescription Paks of 20 and 28. *Tablets,* each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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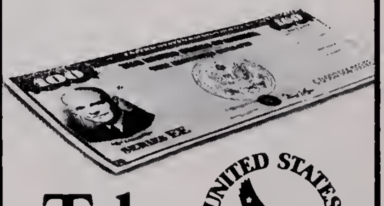

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Introducing Our New MSMA Members

John V. Anderson, Jr., M.D., 24th and Gillham Rd., Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Anderson is a native of Texas, received his preliminary education at Carleton College and his M.D. degree at the University of Texas in 1977. He specializes in neonatology.

Eung K. Bai, M.D., 200 E. 14th, Kansas City 64106, has become a member of Jackson County Medical Society. Dr. Bai is a native of Korea, received his preliminary education at Chonnam University and his M.D. degree at Chonnam University in 1970. He specializes in pathology.

Stacy J. Berckes, M.D., 7950 Westover Pl., St. Louis 63130, has become a member of St. Louis Metropolitan Medical Society. Dr. Berckes is a native of Illinois, received his preliminary education at Memphis State University and his M.D. degree at University Central Del Este in 1980. He specializes in anesthesiology.

Carol T. Berner, M.D., 1900 S. National Ave., Springfield 65804, has become a member of Greene County Medical Society. Dr. Berner is a native of New York, received her preliminary education at the State University of New York and her M.D. degree at St. Louis University in 1977. She specializes in family-practice.

James S. Bonner, M.D., 440 S. Market, Springfield 65806, has become a member of Greene County Medical Society. Dr. Bonner is a native of Springfield, received his preliminary education at Drury College and his M.D. degree at the University of Missouri-Columbia in 1980. He specializes in alcoholic rehabilitation.

M. Douglas Brockman, M.D., 1675 E. Seminole, Suite M, Springfield, has become a member of Greene County Medical Society. Dr. Brockman is a native of Lexington (Mo.), received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Kansas in 1977. He specializes in internal medicine.

Alan M. Cheung, M.D., 1212 Hollings, St. Louis 63135, has become a member of St. Louis Metropolitan Medical Society. Dr. Cheung is a native of Hong Kong, China, received his preliminary education at Peking University and his M.D. degree at Peking University in 1959. He specializes in anesthesiology.

Joseph P. Costello, III, M.D., 1104 Miremont, Manchester, St. Louis 63011, has become a member of St. Louis Metropolitan Medical Society. Dr. Costello is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1978. He specializes in pediatrics and internal medicine.

John S. Crie, M.D., 101 Memorial Dr., Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Crie is a native of Colorado, received his preliminary education at Southern Methodist University and his M.D. degree at the University of Texas Southwestern Medical School in Dallas in 1974. He specializes in internal medicine and cardiology.

Lawrence H. Dall, M.D., 2411 Holmes, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Dall is a native of New York, received his preliminary education at Northeastern University and his M.D. degree at the Medical College of Wisconsin in 1977. He specializes in internal medicine and infectious disease.

Daniel W. Doherty, M.D., 1202 Kentucky, West Plains 65775, has become a member of South Central Missouri Medical Society. Dr. Doherty received his preliminary education at the University of Southwest Louisiana and his M.D. degree at Tulane University in 1972. He specializes in ophthalmology.

Joseph M. Forand, M.D., 1325 S. Grand, St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Forand is a native of Massachusetts, received his preliminary education at Hamilton College and his M.D. degree at St. Louis University in 1981. He specializes in anesthesiology.

Karl E. Gerdes, M.D., 403 Professional Bldg., 609 Cherry, Springfield 65806, has become a member of Greene County Medical Society. Dr. Gerdes is a native of Iowa, received his preliminary education at the University of Arkansas and his M.D. degree at the University of Arkansas in 1978. He specializes in radiology.

Richert E. Goyette, M.D., 1000 W. 10th, Rolla, has become a member of Mid-Missouri County Medical Society. Dr. Goyette is a native of Arizona, received his preliminary education at Northern Arizona University and his M.D. degree at Baylor College of Medicine in 1971. He specializes in anatomic and clinical pathology.

Frederick K. Hall, D.O., 24th and Gillham Rd., Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Hall is a native of Michigan, received his preliminary education at Wayne State University and his D.O. degree at Michigan State University in 1973. He specializes in pediatrics and neonatology.

Phyllis D. Hannah, M.D., 5101 Oak Leaf Dr., Kansas City 64129, has become a member of Jackson County Medical Society. Dr. Hannah is a native of Arkansas, received her preliminary education at the University of Arkansas and her M.D. degree at the University of Arkansas in 1982. She specializes in internal medicine.

Richard J. Harlow, Jr., M.D., 4317 N. Brighton, Kansas City 64117, has become a member of Jackson County Medical Society. Dr. Harlow is a native of Kansas City, received his baccalaureate and M.D. degree at the University of Missouri-Kansas City in 1982. He specializes in internal medicine.

Hugh G. Harris, M.D., 1900 S. National, Suite 1950, Springfield 65806, has become a member of Greene County Medical Society. Dr. Harris is a native of Springfield, received his preliminary education at Westminster College and his M.D. degree at the University of Alabama in 1963. He specializes in Orthopedic surgery.

Mary J. Heisel, M.D., 9150 E. 41st Terr., Kansas City 64133, has become a member of Jackson County Medical Society. Dr. Heisel is a native of Kansas City, received her preliminary education at Kansas University and her M.D. degree at the University of Missouri-Kansas City in 1975. She specializes in internal medicine.

William J. Howitt, M.D., 12 S. Jackson, Perryville 63775, has become a member of Perry-Ste. Genevieve Medical Society. Dr. Howitt is a native of Canada, received his preliminary education at the University of British Columbia and his M.D. degree at the University of British Columbia in 1980. He specializes in family practice and is in general practice.

Roy W. Holand, M.D., 1550 E. Sunshine, Springfield, has become a member of Greene County Medical Society. Dr. Holand is a native of North Dakota, received his preliminary education at Jamestown College and his M.D. degree at the University of Texas Southwestern in 1966. He specializes in orthopedics.

Iraj Jahanian, M.D., 404 Professional Bldg., Springfield 65806, has become a member of Greene County Medical Society. Dr. Jahanian is a native of Iran, received his preliminary education at Teheran University Medical School and his M.D. degree at Teheran University Medical School in 1962. He specializes in general practice.

Rolando M. Lavarro, M.D., Box 369, Highway 106, Ellington 63638, has become a member of Butler-Wayne-Ripley-Carter Medical Society. Dr. Lavarro is a native of the Philippines, received his preliminary education at Letran College and his M.D. degree at the University of the East in 1966. He specializes in general surgery.

Monroe I. Levine, M.D., 2301 Holmes, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Levine is a native of New York, received his preliminary education at Virginia Military Institution and his M.D. degree at New York University in 1961. He specializes in orthopaedic surgery.

Daniel E. McGunegle, M.D., Route 17, Kansas City 64139, has become a member of Jackson County Medical Society. Dr. McGunegle is a native of Michigan, received his preliminary education at Albion College and his M.D. degree at the University of Michigan in 1968. He specializes in obstetrics and gynecology.

Gary L. Mehlhorn, M.D., 410 Professional Bldg., Springfield 65806, has become a member of Greene County Medical Society. Dr. Mehlhorn is a native of Tennessee, received his preliminary education at Michigan State University and his M.D. degree at the University of Tennessee in 1973. He specializes in ophthalmology.

Mark A. Molos, M.D., 15 E. 108th Terr., Kansas City 64114, has become a member of Jackson County Medical Society. Dr. Molos is a native of Kansas City, received his baccalaureate and his

M.D. degree at the University of Missouri-Kansas City in 1981. He specializes in internal medicine.

Howard A. Mueller, M.D., 101 S. Broadway, St. Louis 63125, has become a member of the St. Louis Metropolitan Medical Society. Dr. Mueller is a native of Illinois, received his preliminary education at the University of Illinois and his M.D. degree at the University of Illinois in 1958. He specializes in internal medicine.

Melvin Oskvig, M.D., St. Joseph 64501, has become a member of the Buchanan County Medical Society. Dr. Oskvig is a native of Iowa, received his preliminary education at the University of Iowa and his M.D. degree at the University of Iowa in 1974. He specializes in internal medicine.

Patrick M. Palmer, M.D., 24th and Gillham Rd., Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Palmer is a native of Texas, received his preliminary education at the University of Texas and his M.D. degree at the University of Texas in 1973. He specializes in orthopaedic surgery.

Kim E. Parker, M.D., Suite 142, 6400 Prospect, Kansas City 64132, has become a member of Jackson County Medical Society. Dr. Parker is a native of Kansas City, received her baccalaureate and M.D. degree at the University of Missouri-Kansas City in 1976. She specializes in anesthesiology.

Joseph E. Pehlman, M.D., #1 Hospital Dr., Doniphan 63935, has become a member of Butler-Wayne-Ripley-Carter Medical Society. Dr. Pehlman is a native of Doniphan, received his preliminary education at Southern Illinois University and his M.D. degree at the Univeristy of Juarey in 1979. He specializes in pediatrics.

Guy F. Perry, M.D., 1211 S. Glenstone, Springfield 65804, has become a member of Greene County Medical Society. Dr. Perry is a native of Ohio, received his preliminary education at Anderson College in Indiana and his M.D. degree at Indiana University in 1970. He specializes in occupational medicine and internal medicine.

Stephen W. Phillips, M.D., 2038 Robin Hood Circle, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Phillips is a native of Kansas City, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1978. He specializes in diagnostic radiology.

Michael H. Ralph, M.D., 4237 Reavis Barracks Rd., St. Louis 63125, has become a member of St. Louis Metropolitan Medical Society. Dr. Ralph is a native of New York, received his preliminary education at Syracuse University and his M.D. degree at Stritch School of Medicine in 1977. He specializes in orthopedic surgery.

Cleveland E. Rayford, M.D., 10518 E. 40th Terr., Kansas City 64133, has become a member of Jackson County Medical Society. Dr. Rayford is a native of Arkansas, received his preliminary education at the University of Arkansas and his M.D. degree at the University of Arkansas in 1982. He specializes in internal medicine.

Patrick G. Schoenfelder, M.D., 1443 N. Robberson, Suite 208, Springfield 65802, has become a member of Greene County Medical Society. Dr. Schoenfelder is a native of Minnesota, received his preliminary education at Macalester College and his M.D. degree at the University of Minnesota in 1978. He specializes in diagnostic radiology.

Robert L. Schuehardt, M.D., 621 S. New Ballas Rd., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Schuehardt is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at St. Louis University in 1982. He specializes in family practice.

Diana J. Spade, M.D., 609 Cherry, Springfield, has become a member of Greene County Medical Society. Dr. Spade is a native of Kansas, received her preliminary education at Metropolitan State College and her M.D. degree at the University of Kansas in 1979. She specializes in anesthesiology.

Robert V. Spake, M.D., Suite 409, 4400 Broadway, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Spake is a native of Kansas City, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1977. He specializes in otorhinolarynology.

Jerry M. Speckman, M.D., Suite T-209, 6420 Prospect, Kansas City 64132, has become a member of Jackson County Medical Society. Dr. Speckman is a native of Minnesota, received his preliminary education at the University of Minnesota and his M.D. degree at the University of Minnesota in 1975. He specializes in diagnostic radiology.

Howard W. Stamm, M.D., St. Joseph 64501, has become a member of Buchanan County Medical Society. Dr. Stamm is a native of Illinois, received his preliminary education at Indiana School of Medicine and his M.D. degree at the Indiana School of Medicine in 1970. He specializes in physical medicine and rehabilitation.

Dale M. Stegeman, M.D., 615 S. New Ballas Rd., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Stegeman is a native of Jefferson City, received his preliminary education at Northeast Missouri State University and his M.D. degree at the University of Missouri-Columbia in 1981. He specializes in family practice.

William P. Thorpe, M.D., 1700 Brookwood, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Thorpe is a native of New York, received his preliminary education at Princeton University and his M.D. degree at Harvard University in 1973. He specializes in orthopedic surgery.

David M. Trantham, M.D., 2525 Fairland, St. Francis Dr., Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Trantham is a native of Lebanon, received his preliminary education at Southeast Missouri State University and his M.D. degree at the University of Missouri-Columbia in 1976. He specializes in emergency medicine.

Barry C. Wood, M.D., Suite 208, 4320 Wornall Rd., Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Wood is a native of St. Joseph, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1973. He specializes in internal medicine.

Sara Zacharias, M.D., E. 5th St., Fulton 65251, has become a member of Boone County Medical Society. Dr. Zacharias is a native of India, received her preliminary education at Women's Christian College and her M.D. degree at Lady Hardinge Medical College in 1965. She specializes in pathology.

New Student Members

University of Missouri-Columbia

Lise E. Hager
David J. Meehan
Elizabeth S. O'Brien
Michael J. Winkelmann

University of Missouri-Kansas City

Martha J. Bertz
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in Brief

A summary of AMA, medical & health news

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THIRTY-ONE STATES will have additional AMA delegates this year. Based on 1982 membership figures, the total delegate count increased by 45 over last year and now stands at 351. Getting one additional seat in the House are Alabama, Arkansas, Connecticut, District of Columbia, Georgia, Hawaii, Illinois, Kansas, Kentucky, Massachusetts, Minnesota, Mississippi, Missouri, New Mexico, New York, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Virginia, Washington, and Wisconsin. Two states, Louisiana and New Jersey, increased their representation by two each, while California, Florida, Maryland, Michigan, Pennsylvania and Texas increased theirs by three delegates each.

THE NUMBER OF U. S. physicians is increasing faster than the population in general. Between 1976 and 1981, the number of physicians rose 18.5% while the general population rose 5.4%. As a result, the population-to-physician ratio has decreased 11% since 1976 and 2.6% from 1980 and 1981, according to figures released from the AMA Physician Masterfile. At the end of 1981, there were 485,123 medical doctors, 230.5 million people, and an average of 210.4 physicians for every 100,000 population.

A NATIONAL REGISTRY for boxers was recommended by the AMA testimony before the House Subcommittee on Commerce. Russell H. Patterson Jr., M.D., who represents the American Association of Neurological Surgeons in the AMA House of Delegates, told the subcommittee that a national registry would help enforce the temporary suspensions that some jurisdictions impose on boxers who have sustained certain injuries. He also called for stricter medical evaluations for boxers and their sparring partners, mandatory safety equipment and frequent medical training seminars for all ring personnel. Dr. Patterson said physicians should be authorized to stop any bout in progress at any time to examine a contestant.

THE NUMBER OF WOMEN physicians increased 53.1% in the five-year period ending 1981 — from 38,761 in 1976 to 59,346 in 1981 — according to the AMA Physician Masterfile. Office-based women physicians nearly doubled during the last five years, rising from 12,581 to 24,393. In 1982, 20.8% of the hospital-based physicians were women.

A STEERING COMMITTEE has been named by the AMA Board of Trustees to implement the new Hospital Medical Staff Section. The first full meeting of the section is scheduled for June 17-20 in conjunction with the Annual Meeting of the House of Delegates in Chicago. The section will provide a national forum for medical staff physicians, stimulate closer communication among medical staffs, and provide the medical staffs with a direct voice in the House. Thomas C. Peebles, M.D., Weston, Mass., is chairman of the 11-member committee.

PHYSICIAN representation on hospital governing bodies is an effective method for strengthening physician-hospital relations and assuring physician participation in hospital decision-making, according to a survey conducted by the AMA Socioeconomic Monitoring System. Most physicians (88.4%) said their hospital has at least one physician on the governing board, and 89.8% said the physicians on the governing body adequately represent their interests.

IN ITS STUDY of the growing number of nonphysician personnel in physicians' offices, the AMA's Socioeconomic Monitoring System analyzed the productivity of physicians who employ nurse practitioners or physicians' assistants, compared to those who do not. It found that physicians in both categories worked the same number of weeks per year, but that those employing NPs or PAs have 103 patient visits per week compared to 86 for those who do not. Physicians who employ NPs or PAs have a mean fee of $22.45 for an office visit by an established patient, while those who do not have a mean fee of $23.19.

The weight of objective evidence supports the clinical efficacy of

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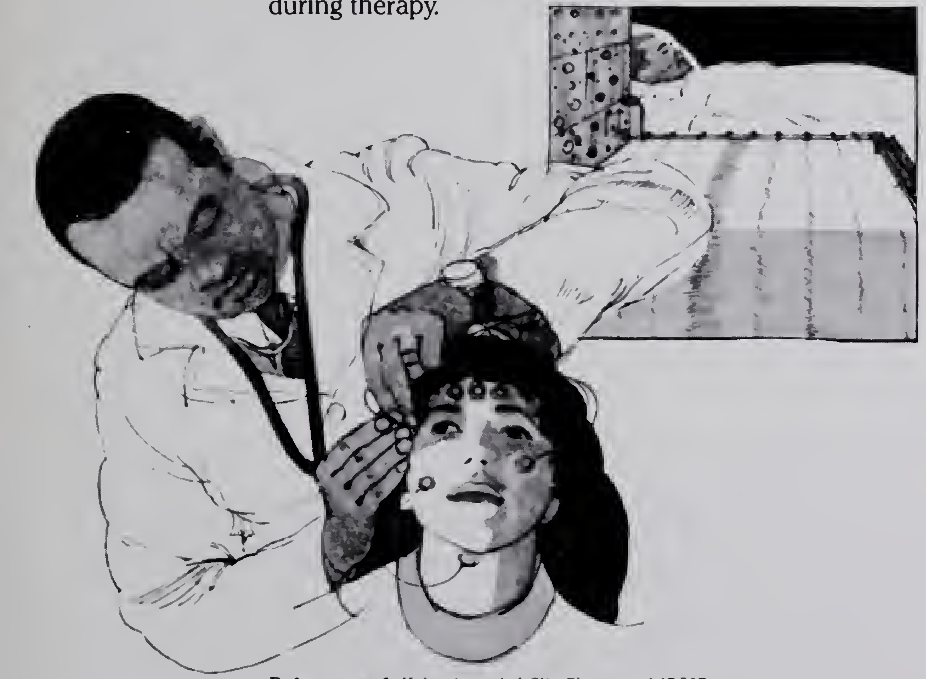
15-mg/30-mg capsules

- Studied extensively in the sleep laboratory—the most valid environment for measuring hypnotic efficacy.[1-12]
- Studied in over 200 clinical trials involving over 10,000 patients.[13]
- During long-term therapy, which is seldom required, periodic blood, kidney and liver function tests should be performed.
- Contraindicated in patients who are pregnant or hypersensitive to flurazepam.
- Caution patients about drinking alcohol, driving or operating hazardous machinery during therapy.



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Dalmane® Ⓒ
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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

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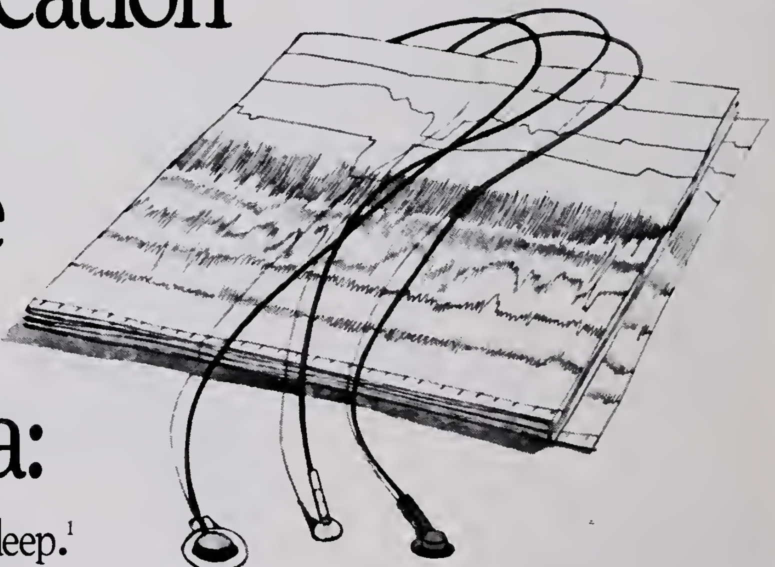

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- Continued efficacy for at least 28 nights.[2]
- Seldom produces morning hangover.[3]
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Missouri Medicine

Vol. 80, No. 6 (ISSN 0026-6620) June, 1983

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'100 Years Old and Going Strong'

Hemoccult Screening For Colorectal Cancer In Missouri

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SPECIAL ISSUE

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MISSOURI STATE MEDICAL ASSOCIATION

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June 1983

PROGRESS NOTES

missouri state medical association

MSMA to Intervene in Supreme Court Cases

The Missouri State Medical Association will intervene in two court cases that will be heard before the Missouri Supreme Court.

The MSMA Council, at its May 14 meeting in Jefferson City, voted to file an *amicus curiae* brief (friend of the court) in a wrongful death suit against two Kansas City physicians and a Kansas City hospital.

The case involves interpretation of Missouri's wrongful death statute which authorizes the filing of a lawsuit on behalf of an individual who, had he lived, would have been able to sue for negligence.

The case MSMA is entering involves a stillborn infant and the issue of whether a once viable fetus which is stillborn may seek relief under the wrongful death statute. The fetus, having never been born, does not come under the literal terms of the statute.

The trial court and the Missouri Court of Appeals ruled in favor of the physicians in Kansas City on this issue, agreeing that under the current law no right of action exists.

In the second case, MSMA will also attempt to intervene and file an *amicus curiae*. A lower court ruling found that nurse practitioners at a Cape Girardeau family planning clinic were performing the unauthorized practice of medicine by prescribing medications and conducting pelvic examinations.

The defendants in the case are the seven members of the Missouri Board of Registration for the Healing Arts.

In other actions, the Council Chairman, Dr. Walter German, announced that Dr. Andrew McCanse, Kansas City, has been appointed to fill the unexpired term of Dr. Robert A. Slickman as AMA delegate. Dr. Slickman died April 20. Dr. Martin Crow, Kansas City, was appointed to fill the unexpired term of Dr. McCanse as AMA alternate delegate.

In other actions, the Council:

- Decided to purchase a new computer system to meet the Association's current needs and growing demands.
- Approved continuing negotiations with GTE for MSMA to become the marketing agent for the AMA/GTE telenet in Missouri. If this proves profitable, the program could be transferred to MSMI, the Association's for-profit corporation.
- Approved researching the establishment of a risk management program.
- Approved investigating the feasibility of providing $10,000 term life insurance policy at no cost for all new members for their first year as members.
- Approved co-signing a $25,000 note for the Missouri Health Data Corporation.
- Granted permission to the Missouri Patient Care Foundation to pursue the PRO contract for Missouri.

Proposed Medicaid Rule Is "Illegal and Improper"

The MSMA recently expressed its opposition to a rule proposed by the Missouri Division of Family Services which would permit Medicaid to review a sample of claims submitted by a provider for overpayments and then extrapolate any errors to all claims submitted by that provider.

The Association told the Division that Medicaid requires providers to keep extensive records and documentation regarding the delivery of *each* medical sercie, yet this proposed rule would excuse the Division from having to document *each* case of overpayment.

In a letter to the director of the Division of Family Services, MSMA Executive Secretary Royal Cooper wrote that, "the idea that an accurate amount of overpayment can be extrapolated from a sample of claims submitted by the provider is totally contrary to sound logic or rational procedure. The effect of the proposed extrapolation is to magnify the dollar amount of overpayments, which quite simply creates an illegal and improper taking from the provider."

Physicians Named to Two State Boards

Governor Kit Bond recently named two Missouri physicians to the State Board of Health.

Dr. John D. Bouhasin, St. Louis, will replace Dr. George E. Thoma, Jr., whose term expired. He will serve a term ending October, 1985. An AMA and MSMA member, Dr. Bouhasin is director of Coagulation Research Laboratory and Hemophilia Clinic in St. Louis. In addition, he is a clinical professor in the pediatrics department at St. Louis University.

Dr. Donald Fakhoury, Kansas City, was appointed to serve on the Board of Health until October, 1985. Dr. Fakhoury, a family practitioner, is a past vice president of MSMA and his wife is a past president of the Auxiliary.

In addition, Governor Bond named Linda A. Fisher, M.D., St. Louis, to the Missouri Board of Registration for the Healing Arts.

Pass or Fail?

Final Actions Underway on Medical Bills

Although it is still too early to state definitely which bills will or will not be adopted by the 1983 Missouri General Assembly, tentative forecast can be given on most issues.

The following bills have passed one House and are scheduled for Committee or floor action by the other House soon. Time would permit passage if they are well-received.

HB 29	Child Auto Restraints
HB 125	Deals with various provisions in Medicaid program
HB 265	Midwest Low-Level Radioactive Waste Compact
HB 450	Allows LPN's to administer IV's
HB 547	Requires Blues to pay for chiropractic services
HB 617	Rewrites Department of Social Services Statutes
HB 659	Requires new physicians to list all previous practice locations
HB 825	Puts a weak moratorium on hospital, nursing home beds
SB 44 & 46	Rewrites state's guardianship laws
SB 163	Establishes a State Cancer Reporting System
SB 313	Adds dental hygenist to State Dental Board
SB 336	Permits trained technicians to initiate dialysis

Some of the issues which have died in Committee include all allied health personnel licensure bills, acupuncture, wrongful death penalty, and release of medical records.

The Handicapped Infant Bill was Perfected by the Senate on March 7, but due to MSMA-sponsored amendments, it was sent to the Budget Committee and, to date, remains there. Provisions of the bill could be amended onto other measures which will be addressed by the Legislature.

Students Receive Award

One student from each of Missouri's four medical schools has been awarded the Missouri State Medical Association's Honors Award for 1983. The award, with a $100 accompanying check, goes to students who have shown superior performance in both clinical rotations and on standardized examinations.

This year's recipients are: Craig K. Reiss, University of Missouri-Kansas City; Ethan J. Haskel, Washington University; Robin B. Blount, University of Missouri-Columbia; and David A. Orsinelli, Jr., St. Louis University.

Membership Drive Continues

Membership is the foundation of any association, and, in an effort to strengthen the foundation of the Missouri State Medical Association, MSMA has prepared several mailings to increase membership.

Delinquent notices were mailed last month to approximately 13 percent of the Association's regular membership. According to MSMA bylaws, dues were payable on January 1, 1983, and a member who has not paid dues by March 1 is delinquent and stands suspended.

A second mailing to approximately 1,000 non-members also went out recently. Soon, residents will be receiving a solicitation in the mail aimed directly at them. In addition, student applications are coming in much greater numbers now and MSMA staff is approaching new medical students during orientations at medical schools.

MSMA Requests Physicians Send CME Information

In order to keep accurate information on each physician's CME activities, the Missouri State Medical Association requests that all physicians provide the following information to MSMA when reporting participation in CME programs:

- Sponsor of the activity
- Date of the activity (day, month, year)
- Topic of the activity
- Number of hours and category appropriate for the activity

Within a few weeks, each physician will be receiving a printout identifying the CME activities he/she has attended. The printout will list all activities reported by either the hospital or by the participating physician. Not all CME credits have been reported. The printout will be reflective only of the materials that have been forwarded to the MSMA office by the hospital or the physician. Any additional activities not shown on the printout should be forwarded to the MSMA office.

These printouts may be used to apply for the AMA Physician Recognition Award. Application for the PRA is voluntary. The PRA is based on a three-year cycle. In order to qualify, an applicant must accumulate 150 credit hours of CME within a three-year period, of which 60 must be in Category I. The remaining 90 hours may be in Category I, or in any combination of categories within the credit hour limitations specified for each category.

CME Categories for the Award

Category	**Credit Hour Limit**
1. CME Activities with Accredited Sponsorship (60 credit hour minimum)	No limit
2. CME Activities with Non-Accredited Sponsorship	45 hours
3. Medical Teaching	45 hours
4. Articles, Publications, Books and Exhibits	40 hours
5. Non-Supervised Individual CME (22 credit hour limit in each subcategory)	45 hours
6. Other Meritorious Learning Experience	45 hours

When mild to moderate pain is a side effect of "Fitness"

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Dental pain and episiotomy pain are predictable, reproducible "standards" that make possible objective comparisons of effectiveness of different analgesic agents.

- Measured against 15, 30 and 60 mg doses of codeine phosphate in a double-blind study of 287 patients, 400-mg doses of ibuprofen proved "significantly better than codeine on almost all pain intensity, degree of relief and duration of analgesia parameters."[2]
- Measured against a propoxyphene-acetaminophen combination for pain relief after 3rd molar extractions, ibuprofen proved equally effective and caused fewer side effects. Ibuprofen was associated with faster recovery, evidenced by more rapid reduction of trismus and return to normal function.[3]
- Measured against post-episiotomy pain in 30 patients, "ibuprofen was effective in treating the swelling as well as pain...during the first and worst days. Therefore, it is not only the analgesic but also the anti-inflammatory effect of ibuprofen that are the beneficial factors..."[4]

Measure RUFEN® (ibuprofen) against any mild to moderate pain

RUFEN	Acetaminophen + codeine combinations
• single-entity, peripheral-acting analgesia	• combined drugs act partly through central opioid pathways
• powerful treatment of both pain and inflammation	• virtually no treatment of the inflammatory component
• better tolerated than aspirin	• combined side effects of two drugs—warning required about driving or operating machinery; possible respiratory depression with alcohol, tranquilizers, other common medications
• no narcotic risk, red tape, records	• narcotic precautions required
• matchless economy in a modern NSAID	

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RUFEN® (ibuprofen) Tablets

INDICATIONS AND USAGE: Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in the long-term management of these diseases. Safety and effectiveness have not been established for Functional Class IV rheumatoid arthritis.

Relief of mild to moderate pain. Treatment of primary dysmenorrhea.

CONTRAINDICATIONS: Patients hypersensitive to ibuprofen, or with the syndrome of nasal polyps, angio-edema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory drugs (see WARNINGS).

WARNINGS: Anaphylactoid reactions have occurred in patients hypersensitive to aspirin (see CONTRAINDICATIONS). Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Peptic ulceration, perforation, or gastrointestinal bleeding can end fatally, however, an association has not been established. Rufen should be given under close supervision to patients with a history of upper gastrointestinal tract disease, and only after consulting the ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be attempted. If Rufen must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

PRECAUTIONS: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If developed, discontinue Rufen and administer an ophthalmologic examination.

Fluid retention and edema have been associated with Rufen; caution should be used in patients with a history of cardiac decompensation.

Rufen can inhibit platelet aggregation and prolong bleeding time. Use with caution in patients with intrinsic coagulation defects and those taking anticoagulants.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy, this therapy should be tapered slowly when adding Rufen.

DRUG INTERACTION: *Coumarin-type anticoagulants.* The physician should be cautious when administering Rufen to patients on anticoagulants.

Aspirin. Concomitant use may decrease Rufen blood levels.

PREGNANCY AND NURSING MOTHERS: Rufen should not be taken during pregnancy nor by nursing mothers.

ADVERSE REACTIONS: Incidence greater than 1%. Gastrointestinal: The most frequent adverse reaction is gastrointestinal (4 to 16%). Includes nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence). Central Nervous System: dizziness*, headache, nervousness. Dermatologic: rash* (including maculopapular type), pruritus. Special Senses: tinnitus. Metabolic: decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS). *Incidence 3% to 9%.

Incidence less than 1 in 100. Gastrointestinal: gastric or duodenal ulcer with bleeding and/or perforation, hemorrhage, melena. Central Nervous System: depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma. Dermatologic: vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome and alopecia. *Special Senses:* hearing loss, amblyopia (blurred and/or diminished vision, scotomata and/or changes in color vision) [see PRECAUTIONS]. Hematologic: neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs' positive), thrombocytopenia with or without purpura eosinophilia, decreases in hemoglobin and hematocrit. Cardiovascular: congestive heart failure in patients with marginal cardiac function, elevated blood pressure. Allergic: syndrome of abdominal pain, fever, chills, nausea and vomiting, anaphylaxis, bronchospasms (see CONTRAINDICATIONS). Renal: acute renal failure in patients with preexisting significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria. Miscellaneous: dry eyes and mouth, gingival ulcers, rhinitis.

Causal relationship unknown. Gastrointestinal: pancreatitis. Central Nervous System: paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri. Dermatologic: toxic epidermal necrolysis, photoallergic skin reactions. Special Senses: conjunctivitis, diplopia, optic neuritis. Hematologic: bleeding episodes. Allergic: serum sickness, lupus erythematosus syndrome, Henoch-Schonlein vasculitis. Endocrine: gynecomastia, hypoglycemia. Cardiovascular: arrhythmias (sinus tachycardia, bradycardia, and palpitations). Renal: renal papillary necrosis.

OVERDOSAGE: Acute overdosage, the stomach should be emptied. Rufen is acidic and excreted in the urine, alkaline diuresis may benefit.

DOSAGE AND ADMINISTRATION: Rheumatoid arthritis and osteoarthritis, including flareups of chronic disease: Suggested dosage 400 mg t.i.d. or q.i.d.

Dysmenorrhea: 400 mg every 4 hours as necessary.

Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for the relief of pain. *Do not exceed 2,400 mg per day.*

CAUTION: Federal law prohibits dispensing without prescription.

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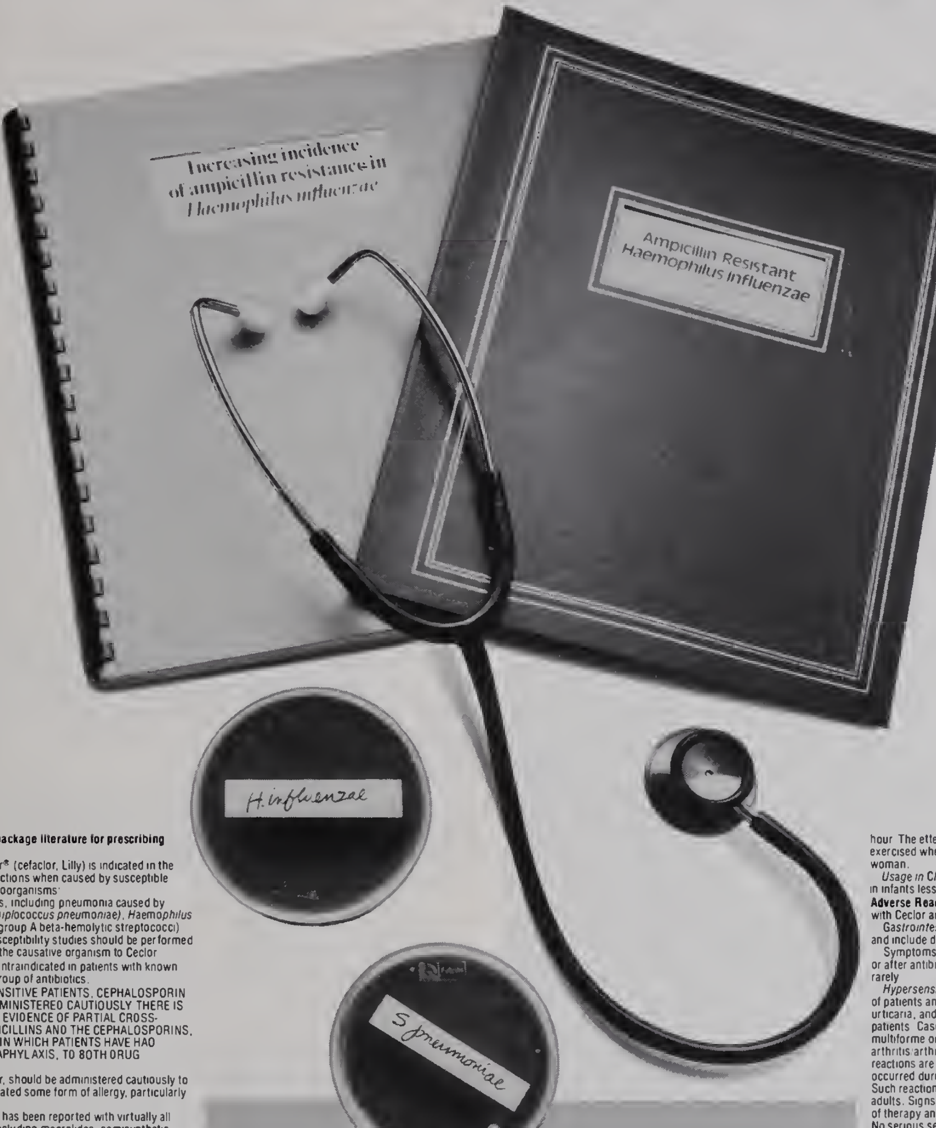
An added complication... in the treatment of bacterial bronchitis*


Increasing incidence of ampicillin resistance in Haemophilus influenzae
Ampicillin Resistant Haemophilus influenzae
H. influenzae
S pneumoniae

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and *S pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by C *difficile* Other causes of colitis should be ruled out

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e g , pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[061782R]

Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor

Pulvules®, 250 and 500 mg

---

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S pneumoniae* or *H influenzae* [8]

Note Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information.

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

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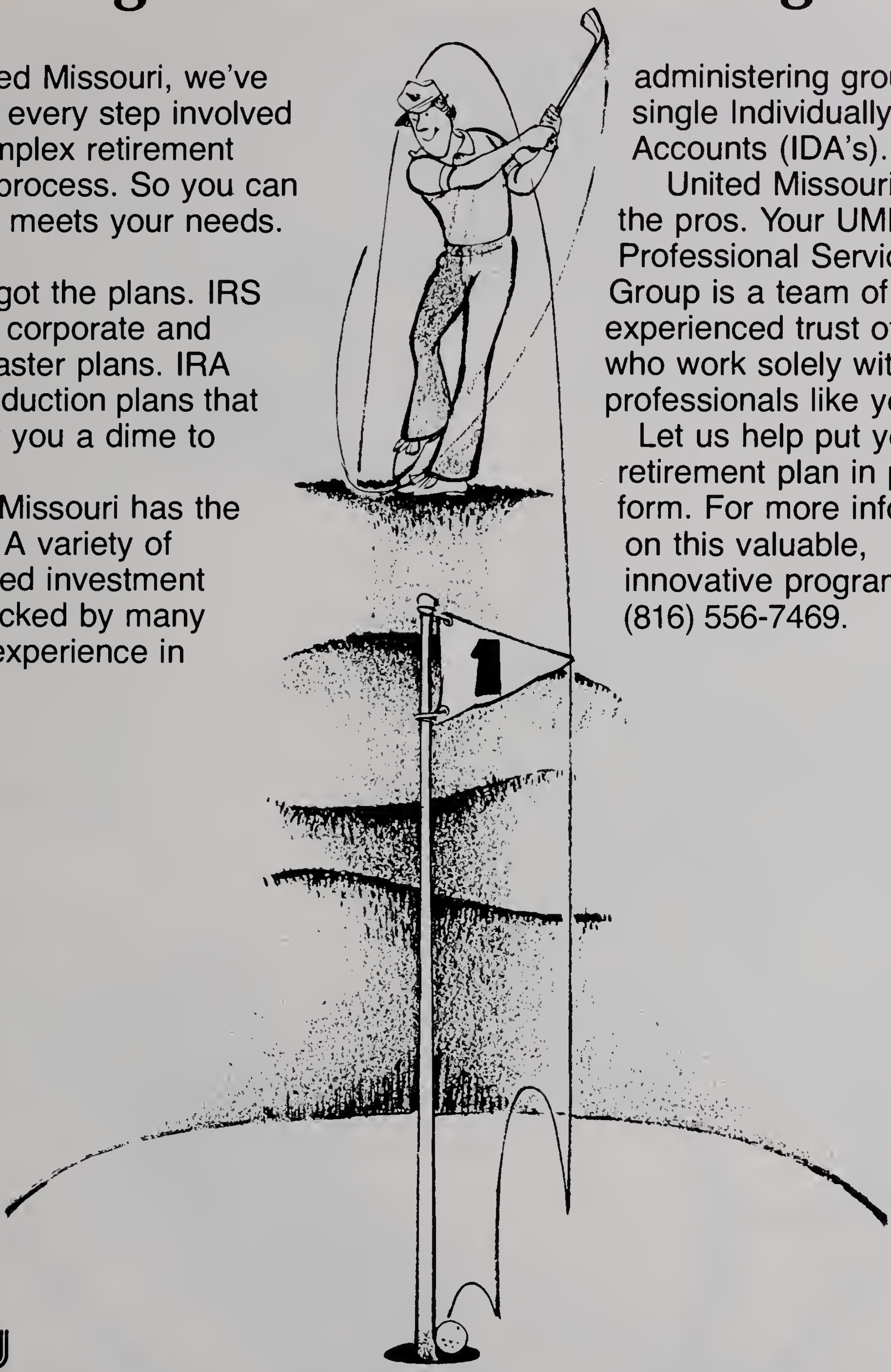

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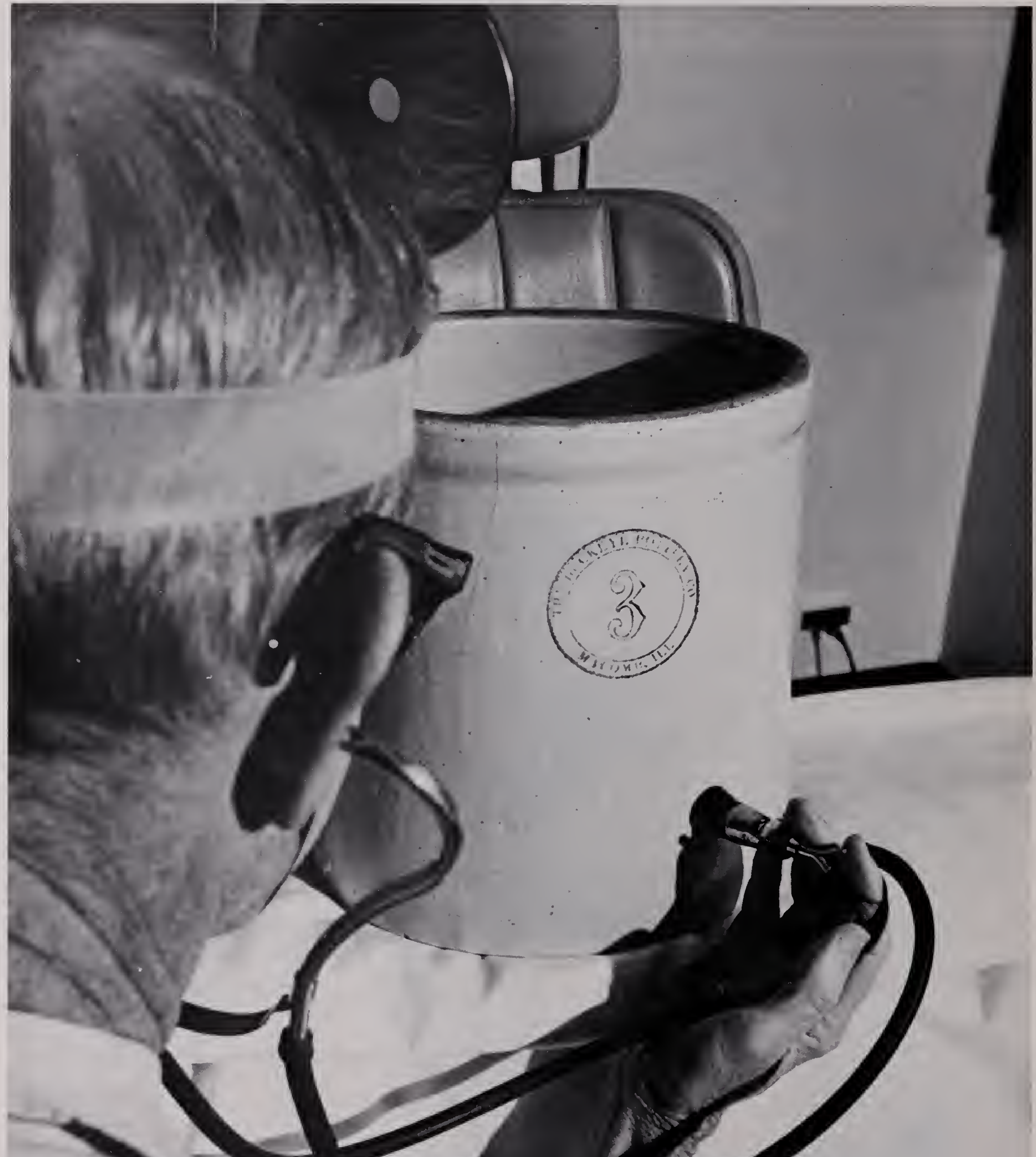
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MACOMB, ILL.

"Everything seems to check out normally."

Editor's Corner

When Franklin Murphy was dean of the Medical School at Kansas University a few years back, his graduating address to the departing seniors always included a statement to the effect that they were then only beginning a 30-year's learning experience as physicians. During the postgraduation decades, most of us have hopefully added a good deal to the stock of knowledge with which we started. One fact most physicians have learned is how little we were taught in school about some aspects of the medical life we were to face. While most medical students dozed through lessons on sporadic marasmus and Tsutsugamushi fever, little was presented on much more practical problems, such as the economics of medicine, or the best treatment of less than totally organic illnesses. We can use financial advisors to help us with the fiscal complexities of being physicians, but handling the latter problem — formerly called psychosomatic illness — continues to plague most of us.

One presumes that to "ivory tower" teachers, admitting that an ill person's problem cannot be categorized into a specific organic disease diagnosis is an insult to the dignity of the professor involved, and likewise emotional factors are often glossed over. There always is the occasional patient whose symptom complex is so bizarre that he is immediately shuffled off to the Psychiatry Department to make way for *real* medical problems.

It can be noted that medicine has been slow to recognize the nature of these complaints. Doctor Chase's medical book of 1886 advises raw onions for nervous sleeplessness, tincture of iodine for impotence, and treating hysteria ("dependent upon inflammation of the ovaries or the womb") by pouring cold water on the head of the patient. So perhaps we have come a ways after all. By 1939, a new journal, "Psychomatic Medicine," was begun, and literature on this subject has multiplied as in all realms of medicine. Still, nonorganic complaints represent a real enigma for most physicians. Perhaps the problem is worse now with third-party carriers wanting precise disease diagnoses for the computers to chew on. Should physicians code a good proportion of their patients as nonorganic or "no disease found"? That flips the red flag at Medicaid headquarters for sure. As if dealing with the "somatizing" patient were not enough of a challenge, a psychiatrist has recently written a book stating that physicians often are somatizers themselves — supposedly a reaction to childhood-based fear of disease and death. Apparently, it takes one to treat one. Come the next work day, we will most likely all have psychosomatic patients — "crocks," if you will — in our waiting rooms, so the gamut of problems we face will range from the purely organic to the nonorganic, with a good share of them representing a mixture of both factors. For those patients whose problems are mostly nonorganic, time and attention are probably the best we can offer. It often seems an insult to our medical egos to realize that a good percent of our patients have problems to which the thousand-page ICD disease coding book gives scant mention. Dealing with these complaints, rather than worrying about treatments of some new Legionnaire's Disease or diagnosing the latest genetic rarity, would appear to place the greatest demand on our medical abilities.

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Just as the student body has grown, so have the school's physical facilities, particularly in recent years. Recently, ground was broken for a $9.6 million, 117,000 square foot structure that will house an expanded health sciences library and an addition to the School of Medicine itself. The new library will serve as a comprehensive resource for the medical community.

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Volume 80, Number 6—June, 1983

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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JERRY KRUSE, M.D. *and*
DAVID S. WHITE, M.D., *Columbia*

Sickle Cell Crisis After Discontinuation of Periodic Transfusion Therapy

Case Report

A DEVASTATING COMPLICATION of sickle cell crises is progressive neurologic dysfunction. Recent reports suggest that periodic transfusion therapy for patients with sickle cell anemia and secondary neurologic dysfunction will prevent sickle cell crises and recurrent neurologic events.[1-3] The patient who is the subject of this case report experienced sickle cell crisis and transient progression of neurologic dysfunction after cessation of periodic transfusion therapy.

CASE REPORT

A 21-year-old black woman had sickle cell anemia that was diagnosed at eight months of age when she had the first of many vaso-occlusive crises. During the next 16 years, she was admitted to the hospital on an average of two to three times per year for treatment of sickle cell crisis. In 1976, a crisis was complicated by cholecystitis, pancreatitis, pulmonary infarction and brain infarction. As a result of the brain infarction, she had persistent left hemiplegia and dysarthria.

Following this episode, a periodic transfusion program was begun in an attempt to prevent progressive neurologic dysfunction. She received 1 unit of packed red blood cells every four weeks. An effort was made to maintain the pretransfusion hemoglobin level of 10 mg% to 11 mg%, while the amount of hemoglobin S in her blood was kept at less than 60%. Monthly phlebotomies were attempted to minimize iron overload, but this did not prove to be technically feasible.

When the patient's serum ferritin level rose to 1,800 ng/ml, iron chelation therapy was started. Desferrioxamine was given at home via subcutaneous infusion at a daily dose of 1.5 gm over eight hours. Serum ferritin levels remained in the 1,400 to 1,800 ng/ml range.

During the five years she adherred to the transfusion program, the patient experienced no painful crises and had no progression of neurologic dysfunction. Then, in 1981, because of the apparent improvement in the patient's health, the family discontinued the periodic transfusions. Nine weeks after the last transfusion, the patient experienced an eight-hour episode of progressive abdominal pain and came to the Emergency Room. She had an exquisitely tender abdomen with marked rigidity and guarding. Sickle cell crisis was diagnosed and the patient was admitted to the hospital.

Neurologic examination on admission showed a spastic hemiplegia on the left side. Reflexes were hyperactive in the left extremities and sustained clonus of the left ankle was present. All these neurologic abnormalities had been present on previous examina-

Although this case report and others suggest that sickle cell crisis and progression of neurologic damage may be prevented by periodic transfusions, controlled studies of the use of transfusions for this condition are needed. The risks of periodic transfusions should be carefully evaluated for each patient before such therapy is initiated.

The authors are from the Department of Family Medicine, University of Missouri-Columbia School of Medicine.

tions. The strength of the right upper and lower extremities was diminished and the patient could move these extremities only with the assistance of gravity. Reflexes in the right extremities were hyperactive. These findings represented a significant change from previous examinations. Examination of the throat showed an exudative pharyngitis. The hemoglobin level was 7.7 gm% and the hemoglobin electrophoresis revealed a hemoglobin A level of 16.2%, a hemoglobin S level of 77.6% and a hemoglobin A_2C level of 6.1%. An abdominal x-ray showed a paralytic ileus.

The patient was treated with intravenous fluids and meperidine, and with oxygen by face mask. She was given nothing by mouth. The abdominal pain and paralytic ileus resolved after four days of conservative treatment. A throat culture grew Group A beta hemolytic Streptococci and the patient was treated with an intramuscular injection of 900,000 units of benzathine penicillin and 300,000 units of procaine penicillin G.

On the third hospital day, pleuritic chest pain developed and the patient had a fever to 39.0°C. Physical examination and appropriate cultures showed no evidence of infection. Chest x-ray revealed bilateral small pleural effusions and no active infiltrates. These pains abated on the seventh hospital day and were presumed to be due to multiple pulmonary infarctions.

During the hospitalization, the patient's weakness on her right side resolved and her strength had returned to normal at the time of her discharge from the hospital. The patient received 4 units of packed red blood cells during the hospitalization. On her discharge, the hemoglobin level was 11 gm%, and the hemoglobin electrophoresis revealed a hemoglobin A level of 61%, a hemoglobin S level of 36% and a hemoglobin A_2C level of 3%.

Also of interest is that the serum ferritin, which had been 1,470 ng/ml nine weeks prior to her admission, was 35,870 ng/ml on the second hospital day. By the seventh hospital day, it had dropped to 6,980 ng/ml. Twelve weeks after her hospitalization, the level was 2,190 ng/ml.

COMMENT

Probably the most devastating complication of the vaso-occlusive crises of sickle cell anemia is neurologic dysfunction after brain infarction. Recent reviews indicate that the central nervous system is involved in 6% to 10% of patients with sickle cell anemia.[4] It has also been found that the recurrence rate of brain infarction following the initial neurologic insult is over 50%.[4] Progressive neurologic dysfunction is the usual result.

Recent reports suggest that periodic transfusions for patients with sickle cell anemia may markedly reduce both the number of sickle cell crises and the number of recurrent neurologic events.[1-3] It has also been found that neurologic dysfunction may be reversible with long-term prophylactic transfusions.[2]

This patient had experienced multiple recurrent episodes of sickle cell crisis with progressive neurologic dysfunction until the prophylactic transfusion regimen was begun. In the five subsequent years, she had had no episodes of sickle cell crisis or progression of neurologic dysfunction. Lusher *et al*[2] and Sarnaik *et al*[3] have reported two cases like this in which patients discontinued periodic transfusion regimens. In both cases, progression of neurologic dysfunction occurred within six weeks. Wilimas *et al*[5] report ten patients with previous neurologic dysfunction for whom periodic transfusion therapy was discontinued. Seven of the ten patients had progression of neurologic dysfunction in a period of five to 11 weeks after cessation of the transfusions. Our patient experienced crisis and transient progression of neurologic dysfunction nine weeks after her last transfusion.

The utility of transfusions in patients with sickle cell anemia and secondary neurologic dysfunction has not been conclusively established. Although this case report and reports summarized above suggest that sickle cell crisis and progression of neurologic damage may be prevented by periodic transfusions, there is a need for controlled studies of the use of transfusions in this situation. The apparent association of rapid recurrence of neurologic deterioration following cessation of periodic transfusion also needs further study. In patients with sickle cell anemia complicated by progressive neurologic dysfunction, periodic transfusions should be considered. The risks of periodic transfusions (iron overload, hepatitis, transfusion reaction, etc.) should be carefully considered for each patient before such a program is started.

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ANTHONY J. WILSON, M.D., *Columbia*

Posterior Dislocation of the Shoulder

A Case for the Lateral Scapula View

DISLOCATION OF THE GLENO-HUMERAL JOINT is a relatively common occurrence that accounts for almost half of all major shoulder dislocations.[1] Often the result of sporting injuries, gleno-humeral dislocations are seen frequently by family physicians, emergency room physicians, sports physicians, and others involved in primary medical care. Fortunately, about 95% of these dislocations are of the anterior type[1, 10] that are usually easy to diagnose both clinically and radiologically (Figs. 1 & 2). Of the remaining 5%, the most common injuries are posterior dislocations[4, 5] that often present a more difficult diagnostic problem. Superior and inferior dislocations also occur but these are rare and normally are not difficult to diagnose.

While less than 5% of the total may not seem to be a common statistic, posterior dislocations of the shoulder occur more frequently than is often realized. It has been shown by several authors that approximately 50% of these injuries may not be detected in the initial clinical and radiological evaluation.[2, 3, 5, 7]

Prompt diagnosis and treatment result in the best possible prognosis while delays in treatment due to a wrong diagnosis can result in an increase in long-term morbidity.[2-4, 12] The major reasons for failure in diagnosing posterior shoulder dislocations are the frequent lack of striking clinical findings,[3, 5] failure to think of this diagnosis when examining a shoulder injury, subtle radiographic findings, and failure to obtain adequate radiographs.[1-4, 10, 11] If adequate radiographs are obtained for all cases of shoulder injury and posterior dislocation is considered, missed diagnoses are rare.[3, 6, 8]

At most x-ray facilities, at least two radiographs of a shoulder are obtained. These views are usually taken antero-posteriorly (AP) with external and internal rotation. While these views are adequate for most cases of nontraumatic shoulder pain, they are inadequate for the reliable evaluation of trauma. It is standard practice in the radiographic evaluation of trauma to obtain two views at right angles to one another. There is no reason to make an exception for the shoulder. A third view taken at right angles to the two standard projections, therefore, is mandatory for all shoulder injuries. A commonly used third shoulder view is the transthoracic view (Figs. 3-B & 4-B) that, while relatively easy to obtain and occasionally helpful, is usually difficult to read and often misleading.[7, 11]

A more adequate view that shows the antero-posterior relationship of the humeral head and glenoid is necessary. The view that shows this relationship most clearly is the axillary view (Fig. 2-B) that is taken with the film cassette superior to the shoulder, the x-ray beam aimed up through the axilla, and the arm in an abducted position.[2, 9] Unfortunately, many patients with injured shoulders are unable to easily abduct the arm, making an axillary view either impossible or too painful.[2, 6, 7]

The simple solution to the problem in diagnosis is the lateral scapula view (Fig. 6) that is taken postero-anteriorly (PA) with the patient in a 60° oblique position and with the x-ray beam centered on the blade of the scapula.[6-8] This view may be taken with the patient either sitting upright or prone, whichever is more comfortable,

Diagnosis of a posterior dislocation of the shoulder joint is frequently missed. A high index of suspicion plus adequate radiographic evaluation should lead to a correct diagnosis in the majority of cases. Knowledge of the often subtle radiographic signs is extremely important. This article presents a review of the radiographic signs of posterior dislocation and explains that routine use of the lateral scapula view of all injured shoulders simplifies the diagnosis of dislocations.

Dr. Wilson is Assistant Professor of Radiology at the University of Missouri-Columbia School of Medicine.

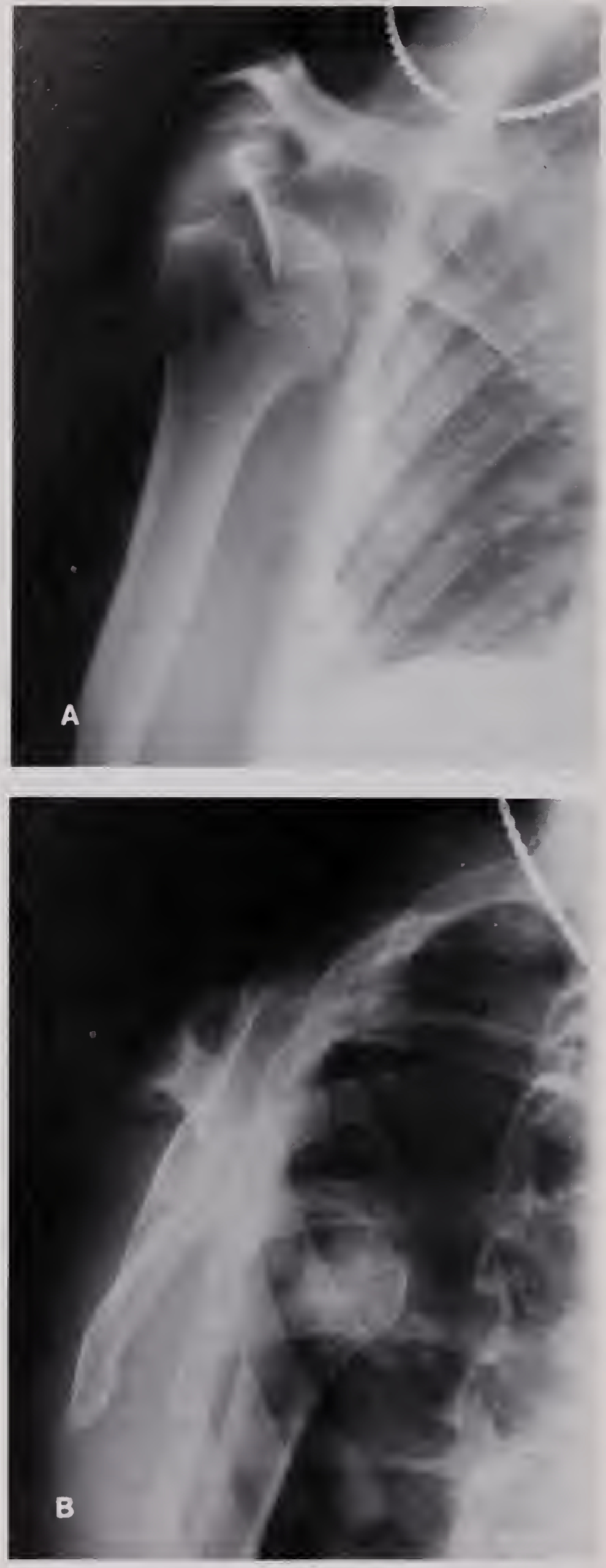


Fig. 1 Anterior shoulder dislocation. *(A)* 40° posterior oblique, shows medial and inferior displacement of humeral head. *(B)* Lateral scapula view shows anterior displacement of humeral head.

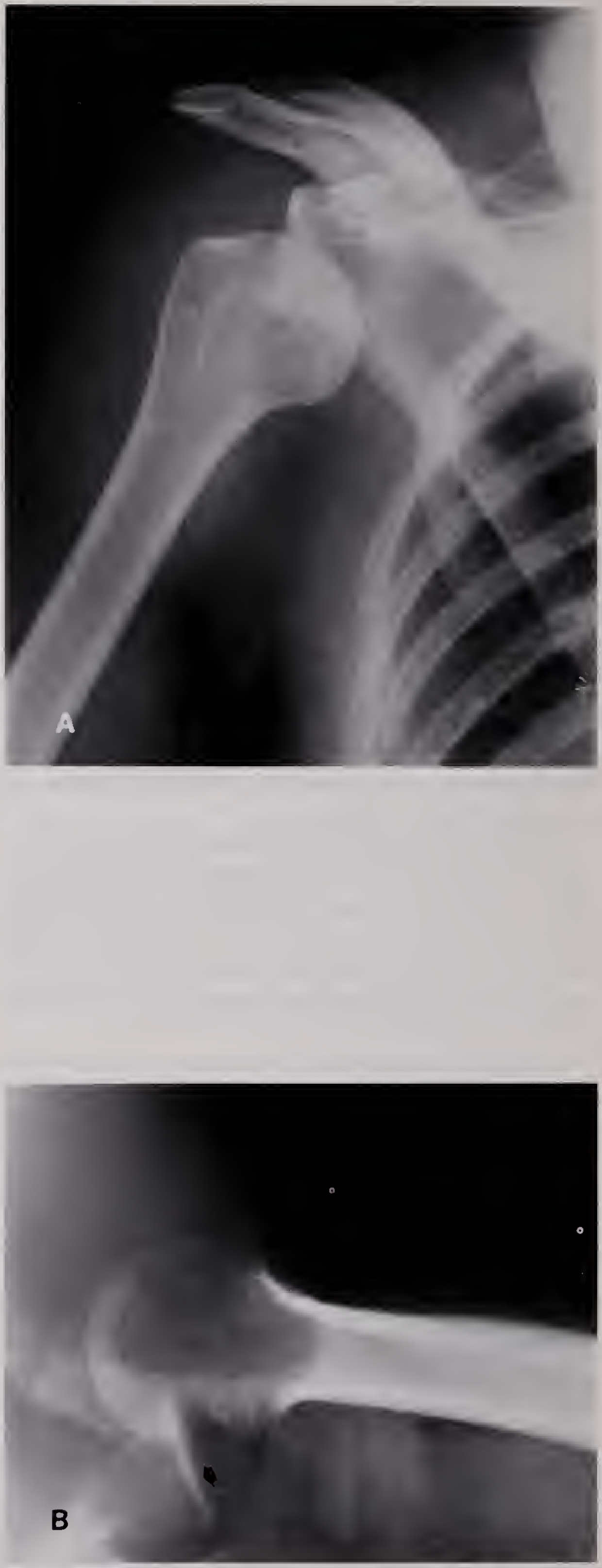
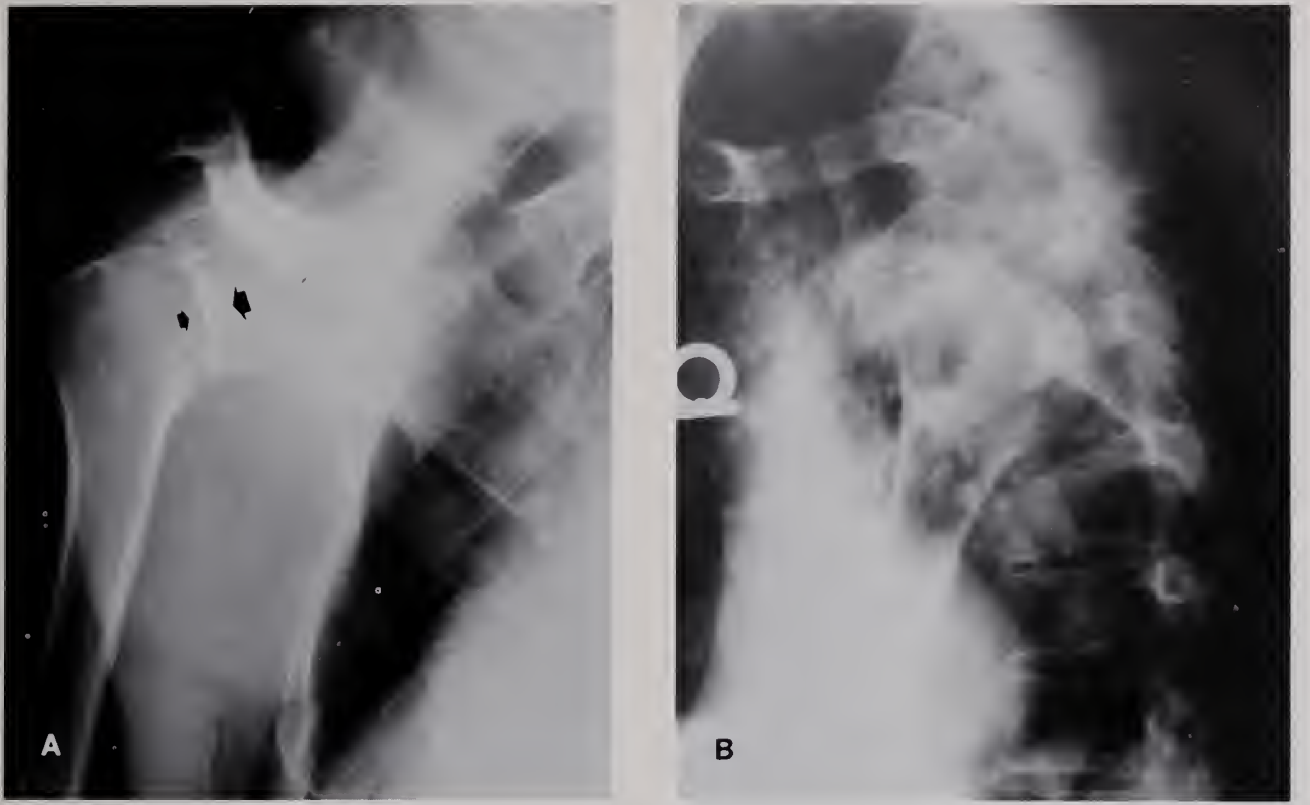


Fig. 2 Recurrent anterior shoulder dislocation *(A)* 40° posterior oblique shows medial and inferior displacement of humeral head. *(B)* Axillary view with humeral head anterior to glenoid *(arrow)*.



and it can easily be taken with the patient's arm in a sling. The lateral scapula view profiles the glenoid giving a "Y" appearance to the scapula. The glenoid fossa and humeral head are normally found at the junction of the "Y." If the humeral head is displaced either anteriorly or posteriorly, it can be readily recognized. With routine use of lateral scapula views of all injured shoulders (or axillary views when practicable), posterior shoulder dislocations should never be overlooked.[6-8] The lateral scapula view is also known by other names, such as transcapula, scapula "Y," and 60° anterior oblique.

It is possible to diagnose posterior shoulder dislocations for most patients with AP views only, but the findings are much more subtle and must be examined carefully.[2-5] Routine use of the lateral scapula view provides a welcome confirmation of the diagnosis. On AP views, the most frequently seen sign on all films is persistent internal rotation (Fig. 4-A). Patients with posterior dislocations usually cannot rotate their humeri externally and the presence of external rotation on a radiograph is said to exclude a posterior dislocation.[3-5] Other commonly seen signs include widening of the gleno-humeral joint (Fig. 5-A) and overlapping of the humeral head and glenoid margin (Fig. 3-A). Overlapping is easier to see on

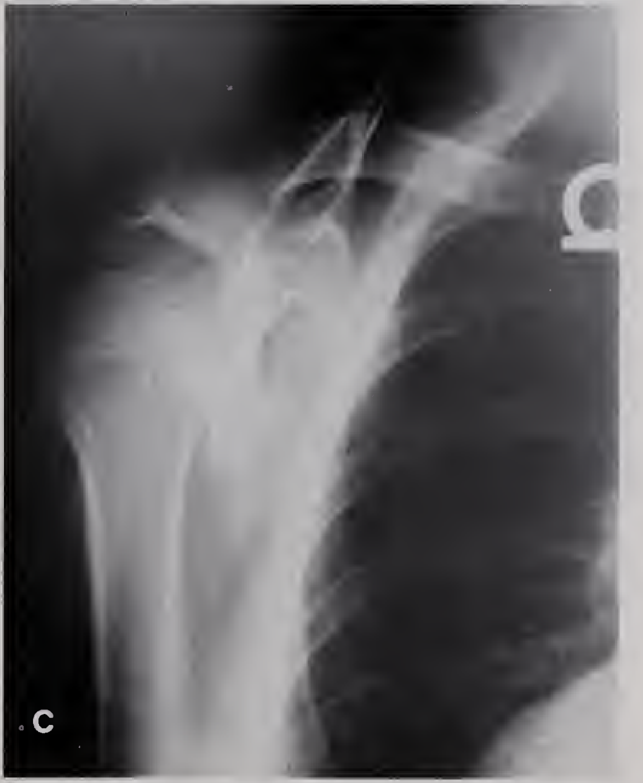


Fig. 3 Posterior shoulder dislocation. *(A)* 40° posterior oblique, shows humeral head *(large arrow)* overlapping glenoid margin and "Trough sign" *(small arrow)*. *(B)* Transthoracic view and *(C)* lateral scapula view show posterior displacement of humeral head.

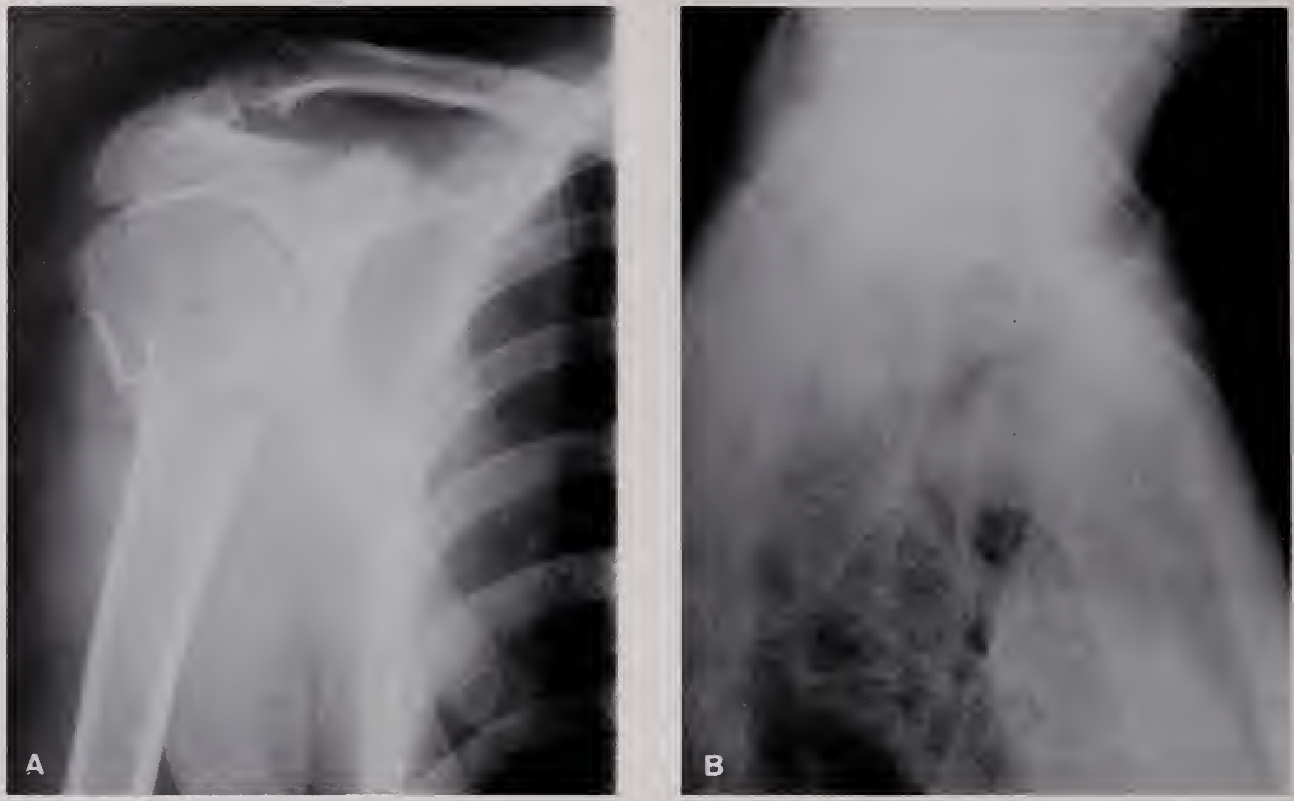


Fig. 4 Posterior shoulder dislocation with fractured neck of humerus. *(A)* AP view shows internal rotation of humeral head. *(B)* Transthoracic view shows posterior displacement of humeral head. The diagnosis was missed initially for this patient due largely to the poor quality transthoracic view.

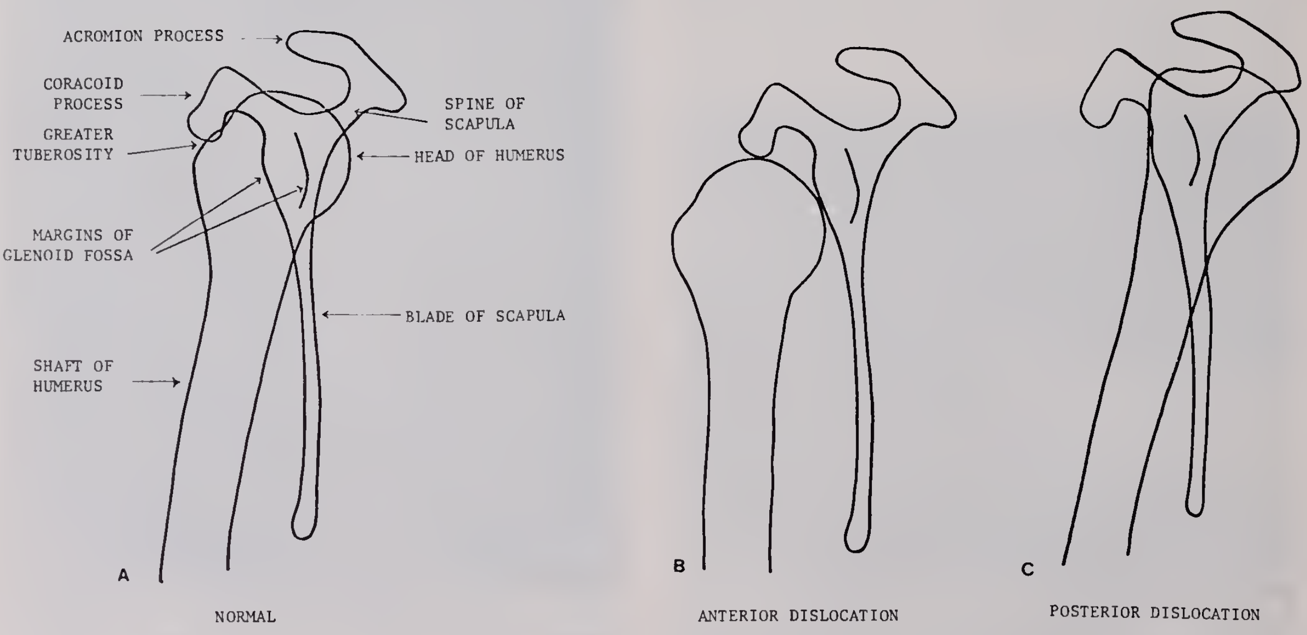

ACROMION PROCESS
CORACOID PROCESS
GREATER TUBEROSITY
MARGINS OF GLENOID FOSSA
SHAFT OF HUMERUS
SPINE OF SCAPULA
HEAD OF HUMERUS
BLADE OF SCAPULA
A
NORMAL
B
ANTERIOR DISLOCATION
C
POSTERIOR DISLOCATION

Fig. 5 Diagrammatic representation of the lateral scapula view. *(A)* Normal appearance shows humeral head articulating with glenoid fossa at the junction of the "Y." *(B)* With anterior dislocations, the humeral head is displaced anteriorly and inferiorly. *(C)* With posterior dislocations, the humeral head is turned to face more posteriorly and is displaced posteriorly.

a 40° posterior oblique view than on a straight anatomic AP.[4, 8] The 40° posterior oblique profiles the glenoid fossa and probably provides a better view for routine use than the anatomic AP in all shoulder examinations.[8] Slight superior or inferior displacement of the humeral head is not uncommon, but it is usually minimal and often within normal limits. A vertical line parallel and lateral to the humeral articular surface is often seen. This represents an impaction fracture of the humeral head (Fig. 3-A) and is known as the "Trough Sign."[3, 4] In the absence of lateral scapula or axillary views, these AP signs are extremely important and must not be overlooked.

Another problem that is commonly encountered in posterior shoulder dislocation is an associated fracture of either the glenoid, the humerus or both.[5, 11] The presence of one or more of these fractures, particularly in the neck or shaft of the humerus, may seem to explain the patient's severe symptoms and cause the unwary physician to overlook the less obvious dislocation (Figs. 4 & 5). In my personal experience, this has been the most common reason for missed diagnoses.

In conclusion, it should be emphasized that posterior dislocations of the shoulder can be readily diagnosed if adequate radiographs are obtained and a high index of suspicion maintained. There is no need for the high rate of missed diagnoses. Making routine use of the lateral scapula view of all injured shoulders and replacing the AP views with 40° posterior obliques create a simple solution to the problem of inadequate radiographs.

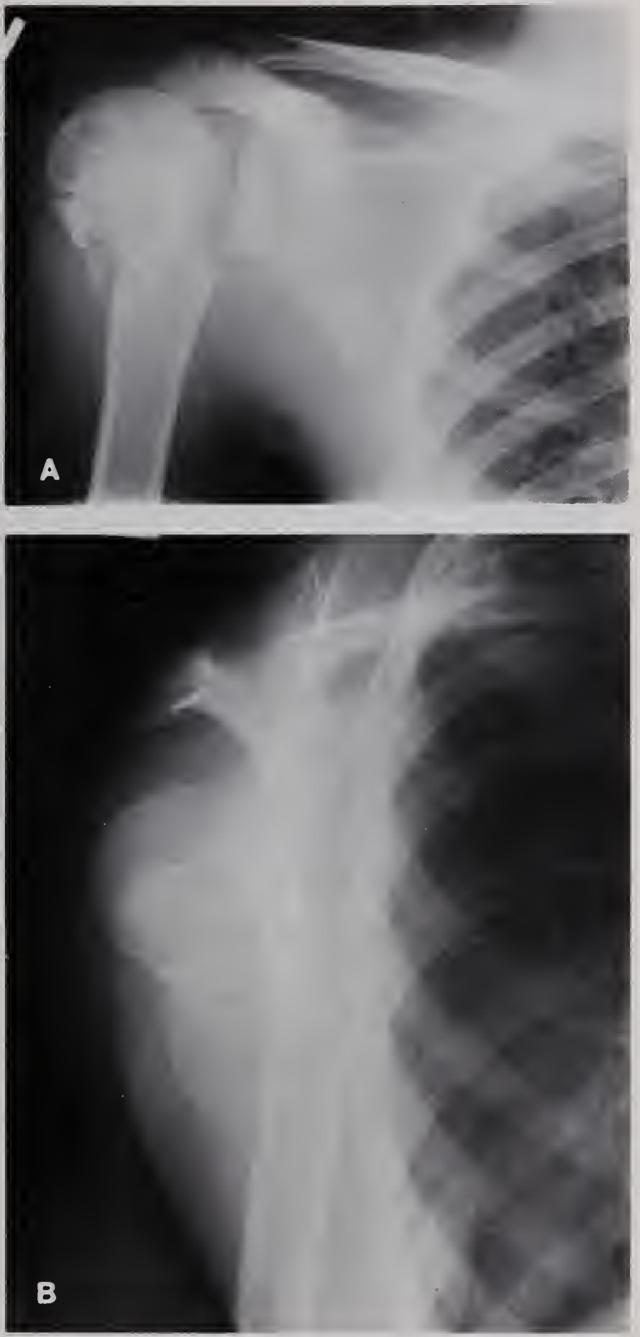


Fig. 6 Posterior shoulder dislocation and humeral neck fracture. *(A)* 40° posterior oblique with internally rotated humerus and widening of the space between the articular surfaces of humerus and glenoid. *(B)* Lateral scapula view with humeral head lying posterior to glenoid.

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JILL PALMER SMITH, M.D. *and*
E. DALE EVERETT, M.D., *Columbia*

Unilateral Hypertrophic Osteoarthropathy

A Clue to Aortoenteric Fistula

Hypertrophic osteoarthropathy is a syndrome of unknown etiology characterized by chronic proliferative periostitis of the long bones, clubbing of the digits and oligosynovitis or polysynovitis.[1] The condition is usually bilaterally symmetrical and associated with a variety of disorders that include malignancies, long standing suppurative diseases, cyanotic heart disease and others. Unilateral hypertrophic osteoarthropathy has been most commonly described in association with vascular diseases such as aneurysmal dilatation of the arch of the aorta or other great vessels and arteriovenous fistulas.[2]

Hypertrophic osteoarthropathy of the lower extremities has been reported as a manifestation of arterial graft sepsis and aortoenteric fistulas.[3-7] The diagnosis of an aortoenteric graft infection in these patients is often delayed and may result in a fatal outcome. In a recent report from the Mayo Clinic, survival of patients following the development of an aortoenteric fistula was approximately 15%.[8] We report a case of unilateral hypertrophic osteoarthropathy of the right lower extremity secondary to an aortoenteric fistula that resolved after surgical correction of the fistula.

An aortoenteric fistula developed unilateral hypertrophic osteoarthropathy that was resolved by surgical correction of the fistula. The occurrence of extremity abscesses containing enteric flora, gastrointestinal bleeding associated with fever or hypertrophic osteoarthropathy should alert the physician to the diagnosis of aortoenteric fistula in patients who have had bypass surgery. Endoscopy and radiographic contrast studies, including angiography, usually fail to show the location of the fistula. The authors cite a case report.

Drs. Smith and Everett are from the Department of Medicine, Division of Infectious Diseases, University of Missouri-Columbia School of Medicine.

Case Report

A 64-year-old man underwent an aortoiliac artery bypass graft for claudication in 1973. The claudication recurred and, in 1975, an aortofemoral artery bypass graft was "piggy-backed" onto the existing graft. Ten days postoperatively, obstructive uropathy developed and a right nephrostomy was required. Subsequently, pyelonephritis that led to a right nephrectomy developed in early 1976. The patient did reasonably well until February, 1980 when right ankle swelling and tenderness occurred. In May, he had an abscess of the right thigh that was incised and drained. Cultures of the abscess material were positive for *Bacteroides fragilis*.

The patient was treated with a variety of antibiotics. However, the abscess recurred in July. Evaluation disclosed that the graft was functioning well and two sets of blood cultures were negative. Another drainage procedure plus a two-week course of clindamycin therapy were instituted. He improved until November when he was referred to the University Hospital and Clinics for evaluation of rectal bleeding and fever. On admission, the patient had a warm, tender, right lower extremity with marked clubbing of the toes of the right foot. The left lower extremity was normal (Fig. 1).

On the third hospital day, the patient had a temperature to 39.9°C. Blood cultures grew *Streptococcus milleri* and therapy with 20 million units of aqueous penicillin G injected intravenously daily was instituted for a suspected infected aortic prosthesis. In an attempt to localize the source of his gastrointestinal bleeding, the patient was evaluated with sigmoidoscopy, barium enema, upper gastroentestinal (GI) series, endoscopy, colonoscopy and an abdominal aortogram. All findings were normal. X-rays of the right lower extremity showed marked cortical thickening and periosteal reaction (Fig. 2). Bone scan demonstrated diffuse extensive uptake in the right lower extremity. Biopsy of bone specimen from the right distal tibia showed chronic periostitis by microscopic examination and cultures were sterile. Vascular surgery was considered after a tentative diagnosis of an aortoenteric fistula with unilateral hypertrophic osteoarthropathy from an infected aortic prostheses.

The patient was taken to the operating room where bilateral axillofemoral bypass grafts were placed distal

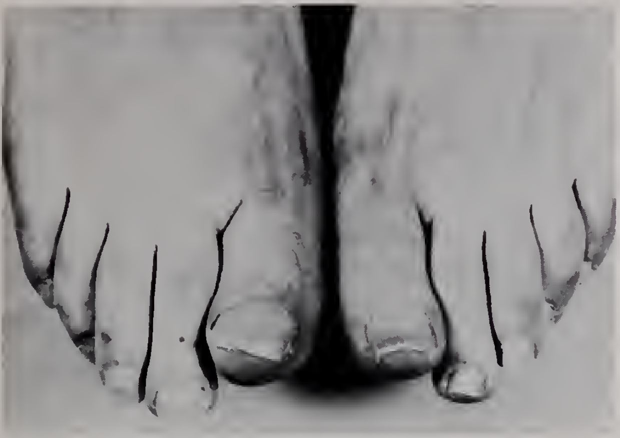

Fig. 1 The patient's feet show clubbing of the toes on the right foot in comparison to the normal left foot.

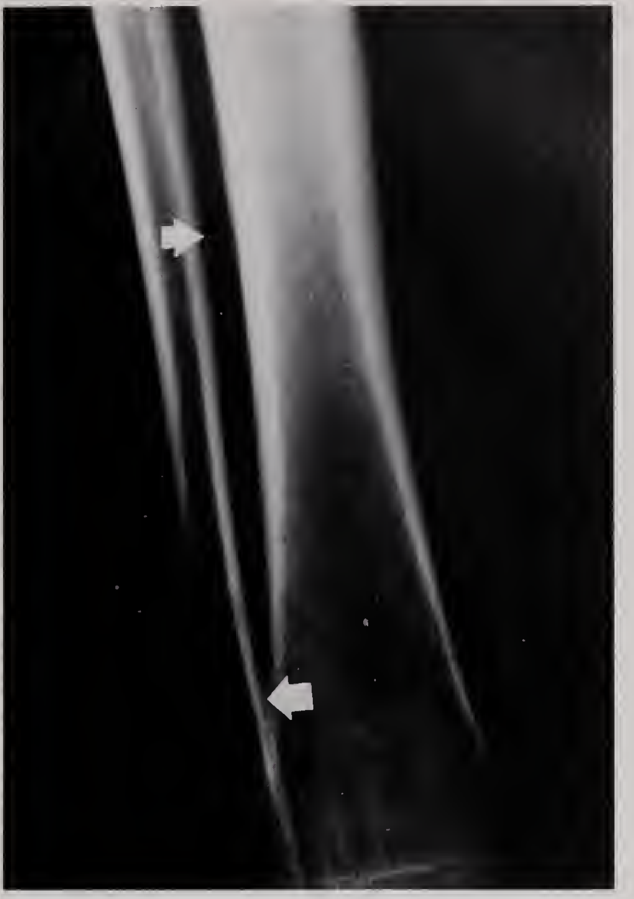

Fig. 2 Radiograph of right lower extremity demonstrates periosteal elevation as indicated by the arrows.

to the femoral graft anastomosis. The abdomen was then opened, the aorta clamped and the aortic prosthesis removed. An aortocecal fistula involving the right limb of the prosthesis was found. Cultures from the extirpated graft grew *E. coli, Bacteroides sp., Fusobacterium sp., S. milleri* and enterococcus. One month postoperatively after repair of the fistula and antimicrobial therapy, the patient's clubbing had resolved.

Discussion

The development of an aortoenteric fistula is a severe and unusual complication ranging from 2% to 4% of aortic prostheses. The most common site of occurrence of aortoenteric fistulas is the duodenum in up to 73% of patients. It is followed by the jenunun, 13%; ileum, 9%; sigmoid colon, 2%; stomach, 1%; appendix, 1%; and cecum, 1%. Most patients with an aortoenteric fistula initially have gastrointestinal bleeding. This first bleeding episode is often mild to moderate and self-limited, but it is subsequently followed by massive hemorrhage when more extensive necrosis has occurred at the site of the aortic defect.[8] Although helpful in excluding other more common causes of upper gastrointestinal bleeding, an upper GI series and endoscopy are rarely diagnostic when bleeding is due to an aortoenteric fistula. As in our patient, arteriography was non-diagnostic in all 14 patients in whom it was performed in the reports by Kiernan *et al* and Rosenthal *et al*.[8, 9]

Additional clues that aid in the diagnosis of infected aortic grafts with aortoenteric fistula are positive blood cultures or lower extremity abscesses containing enteric organisms.[4, 6, 7, 9, 10] The occurrence of gastrointestinal bleeding associated with fever in patients who have undergone abdominal aortic bypass surgery should alert the clinician to the possibility of the presence of an aortoenteric fistula.

Hypertrophic osteoarthropathy is a rare complication of aortoenteric fistulas. Only five cases have been reported in the literature.[3-7] Cases reported to date have been bilateral and have occurred in the setting of an infected graft or in aortoenteric fistula with or without demonstrable infection. Our case was unusual in that the hypertrophic osteoarthropathy was unilateral and was resolved by surgery. The osteoarthropathy being unilateral was probably due to the location of the aortoenteric fistula in the right arm of the prosthesis.

Among those patients with aortoenteric fistula preoperatively, the mortality is high and exceeds 70% in some series.[9] Fourteen percent to 30% have recurrent aortoenteric fistula within six months after surgery. Many patients die from rupture of the aortic stump or recurrent sepsis. In one series, only 15.7% survived one year or longer.[8] Our patient died two months postoper-

(*Continued on page 308*)

ZUHDI LABABIDI, M.D. *and*
JACULIN WANKUM, M.S.N., *Columbia*

Pediatric Idiopathic Chest Pain

Idiopathic chest pain, which is often labeled psychogenic chest pain, is not an uncommon complaint in pediatric practice. Of 3,718 consecutive patients evaluated at the pediatric cardiac clinic at the Missouri Hospital & Clinics, 98 children (2.6%) were referred because of chest pain. The diagnosis for 36 of these children was idiopathic chest pain. The authors describe the appropriate tests and examinations to convince these children and their parents that the chest pain was not cardiac in origin and to assure them that the heart was normal.

Dr. Lababidi is Professor and Director of Pediatric Cardiology and Ms. Wankum is Clinical Nurse Specialist at the University of Missouri-Columbia School of Medicine.

SUBJECTS AND METHODS

CHILDREN WITH CHEST PAIN are often referred to the pediatric cardiologist because of the parents' concern that the pain is cardiac in origin. Of 3,718 consecutive patients evaluated in the pediatric cardiac clinic at the University of Missouri Hospital & Clinics (UMHC), 98 children were referred because of chest pain.

Evaluation of these patients included obtaining a thorough family history with emphasis on social and emotional problems. Questionnaires, completed separately by the patients and their parents, not only elicited information relating to the location, severity, duration, recurrence and radiation of the chest pain but also to their opinions regarding the cause of the pain and what had initiated it.

After thorough physical examination, several appropriate laboratory tests were performed. They included a chest roentgenogram, 12-lead electrocardiogram (ECG), M-mode echocardiogram, and exercise stress testing. All patients underwent a graded, multi-staged, uninterrupted maximum exercise tolerance test using a constant work-load Quinton Bicycle Ergometer. This involved increasing work-loads based on body surface area (Table 1). All children "warmed up" for one minute on a 200 kg-m/min work-load. Without resting, each child pedaled for two minutes at each increasing work-load until he or she was unable to maintain a pedaling rate of 40 to 60 revolutions per minute. The child and family were then counseled, and appropriate management and follow-up were initiated.

The condition of thirty-six patients was diagnosed as idiopathic chest pain because of lack of any physical or laboratory findings to suggest an organic cause for the chest pain. After reassuring all 36 patients and their families, each patient was given a certificate bearing his or her name and stating that the child had completed a maximum endurance test. A follow-up telephone conversation with the parents was conducted one month after the child was discharged, and all patients and parents were asked to report any further episodes of chest pain.

RESULTS

Of 3,718 children evaluated, 98 were referred because of chest pain, an incidence of 2.6% of the pediatric cardiac clinic population at UMHC. Probable causes of chest pain in the 98 patients are listed in Table 2. Of the 98 children, 47 (48%) had heart disease (pericarditis, cyanotic lesions, pulmonary hypertension, aortic stenosis, idiopathic hypertrophic subaortic stenosis or rheumatic heart disease). Fifteen children (15%) had bronchitis, Herpes Zoster, esophagitis, pneumonia, pleurisy, costochondritis, sternal trauma, or chest muscle pain after lifting heavy weights or basketball practice. Thirty-six children (37%) were identified as having idiopathic chest pain.

Of the 36 patients identified as having idiopathic chest pain, 20 (56%) were girls 9 to 19 years of age (mean age of 12 years); and 16 (44%) were boys 10 to 18 years of age (mean age of 13 years). Their recurrent chest pain varied from three times per day to once a month (an average of twice per week). The duration of the pain also varied from one to several minutes (an average of eight minutes).

Sixty-three percent of the chest pain attacks occurred at school and during physical activity, while 37% occurred while the patient was at rest. Eighty percent of the latter occurred while he or she was watching television. The pain was described as mild in all 36 cases; 21 patients (58%) described the pain as sharp and 15 (42%) as dull. The pain was over the whole precordium in 28 cases (78%), midsternal in eight cases (22%), radiated to the right arm in three cases (8%), and radiated to the left arm in two cases (6%) (Table 3). Divorce had occurred in the families of 14 patients (39%) and a recent death of a grandparent after a heart attack had occurred in the families of 12 patients (33%). When the children were asked about what they thought caused their chest pains, 30 (83%) related it to the heart. All of the parents (100%) reported that they were concerned about heart attacks in their children.

All 36 patients had normal electrocardiogram results. Seven children did not achieve the normal Maximum Endurance Index developed in our laboratory for their ages (Table 4) due to lack of physical fitness. However, they were told that their cardiac function was normal. The telephone follow-up one month after the clinic visit showed that chest pain had ceased in 35 patients (97%). In all of these patients, the pain had resolved within one week of the cardiac evaluation. There have been no further reports of chest pain from these children during the two years since they were seen. Only one patient continued to have chest pain that migrated to the head, abdomen and ankles. Further follow-up, including psychotherapy, was initiated for this patient.

Discussion

Chest pain is a common complaint in the adult population and often is a manifestation of serious cardiac disease. Bain and Spaulding[1] related 33% of chest pain in adults to cardiovascular disease. Chest pain in children is relatively rare. In 1976, Driscoll, *et al*[2] reported an occurrence rate of 0.28% in total outpatient visits at a metropolitan children's hospital over a nine-week period. Our study yields an incidence rate of 2.6%. This higher rate was expected, however, due to the fact that ours is a cardiac specialty clinic.

The cardiac problems associated with pediatric chest pain are usually cyanotic lesions, idiopathic hypertrophic subaortic stenosis, rheumatic heart disease, pericarditis or floppy mitral valve syndrome. In this study, 47 children were found to have chest pain of cardiac origin — an incidence

TABLE 1
ERGOMETER WORK-LOAD SCHEDULE

*B.S.A.**	*<1m²*	*1-1.19m²*	*≥1.2m²*
Stage I	200	200	200
Stage II	300	400	500
Stage III	500	600	800
Increments	100	100	200

Pedaling speed = 40-60 rpm.
Duration of Stages = 2 min.
* BSA: Body Surface Area.

TABLE 2
PROBABLE ETIOLOGIES OF CHEST PAIN

Etiology	*Number*	*Percent*
Sternal trauma	1	1
Pleurisy	1	1
Pneumonia	1	1
Herpes Zoster	1	1
Costochondritis	2	2
Esophagitis	2	2
Bronchitis	3	3
Chest muscle strain	4	4
Pericarditis	5	5
Acquired heart disease	10	10
Congenital heart disease	32	33
Idiopathic chest pain	36	37
	98	100

TABLE 3
DESCRIPTION OF IDIOPATHIC CHEST PAIN

Type	*Numbers*	*Percent*
Mild	36	100
Dull	15	42
Precordial	28	78
Midsternal	8	22
Radiated to right arm	3	8
Radiated to left arm	2	6

TABLE 4
NORMAL MAXIMAL ENDURANCE INDEX
USING QUINTON BICYCLE ERGOMETER

Sex	*Mean*	*Standard Deviation*
Boys	491	± 72
Girls	430	± 40

Lowest MEI* for boys:	6- 9 years	375
	10-17 years	425
Lowest MEI* for girls:	6- 9 years	350
	10-17 years	375

* MEI: Maximal Endurance Index in kg-m/min/M².

of 1% of the total number of children evaluated at our clinic. Various other disorders also cause chest pain. They include esophageal and gastric disorders, leukemia, pneumonia, asthma, bronchitis, chest injury or muscle strain, sickle cell anemia, costochondritis, pleurisy, Herpes Zoster, thoracic outlet syndrome, precordial catch, xiphoidalgia and spontaneous pneumothorax. Fifteen of the 98 children in this study were found to have chest pain of such origins.

Idiopathic chest pain, often labeled psychogenic chest pain, is chest pain that occurs in the absence of organic heart disease or other known disorders. In studies dealing with adults who have chest pain, approximately half of the study population are found to have chest pain of unproven cause due to anxiety, especially concerning their cardiac status.[3, 4] The majority of these patients are believed to have psychogenic chest pain.[5]

In our study, 36 of 98 children admitted with chest pain (37%) were found to be free of any organic disease. The fact that all of these children's parents were concerned about the possibility of their child's chest pain being cardiac in origin may stem from the communication media's dramatic emphasis on coronary heart disease, as previously mentioned by Driscoll.[6] The fact that the family is referred to a cardiac specialty clinic can also lead the family to be concerned that the child's chest pain is cardiac in origin. With such strong preconceptions of the possible cardiac origin of chest pain prior to evaluation of the child, one can expect difficulty in alleviating the fears of the family and child who has idiopathic chest pain.

Restricting these children from participating in sports and school activities because of fear of syncope or sudden death may result in psychologic crippling of the child. To combat these fears, it was stressed to the child and the family that the heart was normal and that the child should participate in sports and other school activities. Exercise stress testing, although unnecessary to diagnose idiopathic chest pain in children, was felt to be of great help in convincing the child and his family that the heart was normal.

Reassurance of the child and family that the heart is normal is of utmost importance in the treatment of idiopathic chest pain. Although exercise stress testing was useful in this study, other less expensive means may be considered.

The use and thorough explanation of electrocardiograms and echocardiograms and emphasizing their normal results can be reassuring to the family. Explaining the cause of chest pain and heart attacks in adults due to coronary artery disease vs the virtual absence of this disease in children may convince the family of the innocence of idiopathic chest pain. Identifying the fears and the causes of the fears of the child and family with idiopathic chest pain may be helpful in counseling the family.

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Osteoarthropathy

(Continued from page 305)

atively from hemorrhage secondary to development of an aortoduodenal fistula.

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JAMES H. LINNE, M.D., C. TODD FULBECK, M.D.,
JAMES H. BUTT, M.D., JEFFREY D. HUSTON, M.D.,
MIRIAM T. BUTT, R.N. *and* DAN JACO, M.S.P.H., *Columbia*

Hemoccult Screening for Colorectal Cancer in Missouri

That colorectal cancer is a significant public health problem is evidenced by a predicted 1,400 deaths in Missouri in 1983. The fecal occult blood test is an effective method for the detection of colorectal carcinomas in an early, asymptomatic stage and has potential usefulness in the secondary prevention of colorectal cancer. However, the authors conclude that success of hemoccult screen programs, as described in this article, will depend upon improved public participation and physician education in regard to the appropriate evaluation of positive screening test findings.

Drs. Linne, Fulbeck and Huston are from the Department of Medicine, Division of Gastroenterology and Liver Disease; Dr. Butt is Associate Professor of Medicine; and Ms. Butt is Nurse Educator at the University of Missouri School of Medicine. Mr. Jaco is Director of Hospital Information Services, Missouri Hospital Association.

This study was supported by a grant from the Missouri Cancer Control Program, Bureau of Chronic Diseases, Section of Disease Prevention, Department of Social Services, Missouri Division of Health.

COLORECTAL CANCER is the second leading cause of cancer mortality in the United States, accounting for more than 55,000 deaths last year.[1] The overall ten-year survival rate is a dismal 40% and this rate has not changed appreciably in the past three decades.[2] Such statistics have stimulated interest in developing better approaches to the detection and treatment of colorectal cancer.[3]

The survival rate for patients surgically-treated for colorectal carcinoma is dependent upon the pathologic stage of the disease at the time of treatment. Currently, only 40% of colorectal cancers are detected while in a localized stage. The ten-year survival rate for patients with localized disease (Dukes A and B) is 67% as compared to 30% for nonlocalized disease.[4] Almost all patients in whom colorectal cancer is detected in an asymptomatic stage have localized disease and a five-year survival rate of 90%.[5] This means that detection of the majority of colorectal carcinomas in an asymptomatic stage would result in a marked improvement in the long-term survival of colorectal cancer patients.

The fecal occult blood test has been developed as a screening or case finding technique for colorectal cancer in the asymptomatic individual. To be successful, a screening technique should be applied to target populations according to risk. In the United States, individuals are considered to be at risk for colorectal carcinoma beginning at age 40 years. Those at increased risk include individuals with longstanding ulcerative colitis,[6] previously cured colorectal cancer,[7] a history of adenomatous polyps,[8] and a family history of one of the polyposis syndromes[9] or one of the nonpolyposis inherited colon cancer syndromes.[10]

Using the guaiac test for detection of occult blood in the stool, Greegor was able to detect several colorectal cancers at an early pathological stage.[11] After Greegor's reintroduction of the fecal occult blood test using the guaiac slide, several studies using this technique in screening for colorectal cancer were initiated around the world. The observations from these studies confirm the concept that the guaiac test has potential usefulness in screening for colorectal cancer.

Currently in the United States, there are several uncontrolled programs and two large controlled trials for colorectal cancer screening: one is at Memorial Sloan-Kettering Cancer Center and the Preventive Medicine Institute-Strang Clinic and the other is at the University of Minnesota. Preliminary results have been reported from both studies[12, 13] (Table 1).

This is a report of our trial of hemoccult screening for colorectal cancer. The purpose of this project was to determine the feasibility of providing screening and educational services in a hospital outpatient setting and to assess its potential as a

TABLE 1
SUMMARY OF DATA FROM CONTROLLED TRIALS FOR COLORECTAL CANCER SCREENING WITH THE HEMOCCULT TEST

Rate of positive slides	2.4 to 3.7%
Predictive value for neoplasia	44 to 49%
False positivity	0.5 to 2.1%
Staging of detected cancers	
Dukes A & B*	74 to 78%

* Last year in the United States only 40% of all colorectal cancers were detected while still in a localized stage (Dukes A & B).[1]

working model for other hospitals. We report our results as well as pertinent information regarding public response to and compliance with the hemoccult test and the private physicians' response to a positive test result.

Methods

Our study at the University of Missouri Hospitals and Clinics and the Harry S Truman Veterans Administration Hospital was funded by the Cancer Control Program of the Missouri State Division of Health. The targeted population consisted of asymptomatic men and women over the age of 40 years. We used the Hemoccult II (Smith Kline Diagnostics, Inc., Sunnyvale, Calif.) impregnated guaiac test. Slides that had been stored five or more days from the time of collection were rehydrated prior to development to increase slide sensitivity for blood.[14]

Participants in the screening program were drawn from a variety of sources that included 1,400 subjects who had previously participated in a colon cancer screening program and were asked to participate again, 198 subjects who had participated in previous clinical research projects, 692 individuals from the outpatient clinics at the Harry S Truman Veterans Administration Hospital and University Hospital, and 122 subjects recruited by a nurse educator in the lobby of the University clinics. Each person was instructed in the expected benefits, potential fallibility and proper procedure for performance of the Hemoccult test on a face-to-face basis by a nurse, physician or research personnel. Each subject also received an educational brochure.

In addition, 1,500 retired University employees were mailed educational literature and invited to join the screening program, and 1,188 persons simply "picked up" a brochure in the outpatient clinics without seeking further discussion with a nurse or physician. The screening program was promoted through educational announcements on local television stations (including cable TV), audiovisual presentations and posters in the hospital lobbies.

Individuals wishing to participate in the screening program received a Hemoccult II kit free of charge after filling out and submitting a brief questionnaire. The questionnaire included a six question post test (Fig. 1) that was administered after subjects had received face-to-face instruction, reviewed the brochure and, in some cases, had received intensive education including the use of an audiovisual tape available from the Missouri Cancer Control Program. All those who received Hemoccult II kits but failed to return them were contacted by telephone in an effort to gain their compliance.

The participants were instructed to follow a meat-free, high fiber, low-peroxidase diet during the five test days. After following this diet for 48 hours, the participants were to take two smears from different parts of each stool on three consecutive days and promptly return the cards.

Individuals with negative test results were informed by mail within two weeks. Those with any one of six positive slides received a follow-up letter (Fig. 2).

The individuals with positive screening test results were contacted multiple times by letter and/or telephone as were their private physicians in an effort to improve the percentage of completed evaluations.

Results

A total of 5,100 persons were contacted and invited to join the study; 1,858 of those persons contacted completed the questionnaires requesting participation in the study. However, 358 of those 1,858 individuals failed to return their

HEMOCCULT SCREENING
POST-TEST QUESTIONS

Questions #1-#6: Circle the correct answer.

1. The hemoccult screening test detects blood, whether it is yours or a beef steak's in the gastrointestinal tract. True/False
2. A positive hemoccult screening test does not necessarily mean that you have gastrointestinal cancer. True/False
3. A positive hemoccult test requires medical follow-up. True/False
4. The hemoccult screening test does not detect all gastrointestinal cancers. True/False
5. The hemoccult screening test does not detect all premalignant conditions of the gastrointestinal tract. True/False
6. Do you feel the screening test is worthwhile? Yes/No If no, why not?

Fig. 1

hemoccult cards, an attrition of 19%. Thus, a total of 1,500 or 29% of those persons contacted completed the study. Participation by the various groups who were contacted face-to-face ranged from 51% to 78%. Participation by the group of subjects previously enrolled in a colon cancer screening program was significantly less than any other group. Participation by the group of subjects previously involved in clinical research projects was significantly greater than any other group.

There was no significant difference in the percentage of subjects participating from the groups recruited in the outpatient clinics or by the nurse educator. Participation by the groups contacted by mail or who picked up a brochure in the clinics was less than 5%. Of those 1,500 persons completing the study, 65 or 4.3% had one or more slides positive for occult blood. Diagnostic evaluation of these 65 persons was variable. Seven persons received no evaluation; 53 persons had at least a barium enema test; 17 persons had at least a proctoscopic examination; 22 persons had at least an upper gastrointestinal x-ray, and 24 persons underwent colonoscopy. A site for potential blood loss was identified with positive screening test results in 62% of the individuals. Neoplasia was detected in 26%. Follow-up results of the 65 individuals with a positive screening test are listed in Table 2. The total cost of the project was $13,185 or $1,884 of screening costs per cancer detected.

LETTER TO PARTICIPANTS WITH A POSITIVE HEMOCCULT SCREENING TEST

Dear Participant:

Recently, you submitted a screening test for gastrointestinal bleeding to the University of Missouri Hospital and Clinics or the Harry S Truman Veterans Administration Hospital here in Columbia. This is a test primarily for colon and rectal cancer, also known as colorectal cancer. More than 123,000 Americans this year will develop colon and rectal cancer and 3,100 people in Missouri will develop colon and rectal cancer. This screening test, although it is not perfect (about one person in ten with colon and rectal cancer will have a negative test result), offers the most effective means of screening available for colon and rectal cancer.

Your test was positive for gastrointestinal bleeding. This does not mean that you have colon and rectal cancer, although there is a 10% to 25% possibility that that is the case if your test was carried out properly. What it does mean is that you need to contact your personal physician for a follow-up screening test or a diagnostic investigation.

We are very interested in your obtaining adequate follow-up for this test, so, as we agreed when you participated in the study, we are contacting your physician with this information. If you wish an appointment in our outpatient clinic for follow-up of this problem, please contact us for an appointment.

Thank you for participating in the hemoccult screening test for gastrointestinal bleeding.

Fig. 2

TABLE 2
FOLLOW-UP RESULTS OF THE 65 INDIVIDUALS WITH A POSITIVE SCREENING TEST

No evaluation	7
Negative work-up*	18
Adenocarcinoma of colon (5 Dukes A, 1 Dukes B, 1 Dukes C)	7
Colonic adenomas	8
Angiodysplasia	2
Radiation proctitis	1
Active peptic ulcer disease	5
Inflammatory bowel disease	2
Diverticulosis	4
Hemorrhoids	7
Anal Fissure	1
Duodenal polyps	1
Carcinoma/pancreas	1
Carcinoma/lung/hemoptysis	1
Total	65

* A meaningful false positive rate could not be calculated since seven individuals had no evaluation, and those individuals with a negative work-up had variable and sometimes incomplete evaluations.

Participants in the screening program answered 98% of the post-test questions correctly. There was no statistically significant difference among the various groups.

Discussion

Several questions concerning the feasibility of the fecal occult blood test as a secondary preventative measure for colorectal cancer remain unanswered. The two major ongoing controlled trials in the United States[12, 13] will answer many of these questions, particularly the question of survival benefit to the screened population vs the control group. One potential shortcoming of the Hemoccult II test that may reduce the survival benefit to the screened group is its low sensitivity for detecting colonic polyps. It is well accepted today that adenomatous tissue in the colon and rectum represents precancerous disease[8] and that its removal can significantly decrease the incidence of invasive carcinomas.[15] The present Hemoccult II test has a false-negative rate of 72% for adenomas[16] and 10% for colorectal cancers.

Public acceptance of the fecal occult blood test is critical to its success as a screening method. Although high compliance rates have been reported for selected motivated populations,[12, 13, 17] there is little data available to evaluate the rate at which persons from a known population will volunteer for fecal occult blood screening. Elwood *et al* found that the percentage of retired persons contacted and who returned the hemoccult slides varied from 8.6% of persons to whom literature was mailed and who were asked to come to a clinic to 28.7% of those who attended a group meeting.[18]

In our study, face-to-face contact was important for the successful recruitment of subjects. Prior participation in a colon cancer screening program did not ensure subsequent participation. Interestingly, there was no difference in participation between the group given extensive educational instruction by a nurse educator and the group recruited by nurses in the outpatient clinics. This suggests that subjects could successfully be recruited in outpatient clinics by the nurses without the cost of adding additional personnel. Attempts at recruiting individuals through mailed brochures was totally unsuccessful.

Our screening program had an acceptably low rate of positive slides of 4.3%, which is manageable in terms of patients needing diagnostic workup. We also observed a favorable staging of detected carcinomas with 86% being Dukes A and B, reaffirming the value of fecal occult blood testing in detecting colorectal cancers at an earlier pathological stage. In our study, a positive screening test carried a 26% predictive value for neoplasia (carcinoma or adenoma). This is lower than the 50% predictive value for neoplasia demonstrated in programs utilizing colonoscopy in the evaluation of all patients with positive screening tests.[12, 13] This discrepancy may be explained by the fact that only 24 or 37% of the 65 persons in our study with a positive screening test result underwent colonoscopy as part of their evaluation.

It appears that many physicians have an incomplete understanding of the potential significance of a positive Hemoccult II test and the diagnostic evaluation required. Both the American Cancer Society[19] and the International Workshop on Colorectal Cancer[20] recommend colonoscopy as an integral part of the diagnostic work-up of all individuals with positive screening test results. This recommendation is supported by the findings of the two controlled colorectal cancer screening programs in the United States.[12, 13] At the University of Minnesota, the single column barium enema test missed 36% of the cancers and 65% of the polyps detected by colonoscopy. At Memorial Sloan-Kettering Cancer Center and the Preventive Medicine Institute-Strang Clinic, the air contrast barium enema test detected 12 of 13 cancers for a sensitivity of 92%; colonoscopy also detected 12 of 13 cancers for a sensitivity of 92%. The two examinations were complementary for cancer in that each examination missed one cancer that the other detected.

In the same study, however, the air contrast barium enema test detected only 21 of 45 adenomas larger than 5 mm for a sensitivity of 47% as compared to 43 of 45 for colonoscopy for a sensitivity of 96%. Based upon the above statistics, the appropriate evaluation of a positive screening test result should include both an air contrast barium enema and colonoscopy.

We conclude that hemoccult screening of an asymptomatic population in a hospital outpatient setting is feasible only if each person to be screened is given educational information about the hemoccult test on a face-to-face basis. Recruitment of individuals to be screened via mailed informational brochures was unsuccessful. We feel that optimal utilization of the hemoccult test will require increased physician understanding in regard to the significance of a positive screening test result and its appropriate evaluation.

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LARRY J. PETTERBORG, Ph.D., *Columbia*

Photoperiodic Regulation of Reproduction In the White-Footed Mouse

Neuroendocrine Aspects

Photoperiod, the amount of light each day, is the primary synchronizer of annual reproductive cycles in a wide variety of organisms. In some mammals, the pineal gland acts as a "neuroendocrine transducer,"[1] converting sensory information into hormonal signals. The pineal receives photic input from the environment through a multisynaptic pathway beginning in the eyes and terminating in the gland as postganglionic sympathetic axons.[2]

Production of melatonin by the pineal gland is stimulated during the dark phase of a light-dark cycle by the release of norepinephrine from these post-ganglionic fibers.[3] The action of the pineal gland is generally considered to be inhibitory to reproduction and this action is the result of the synthesis and release of melatonin.[4] The actual site and mechanism of action for the antigonadotrophic action of melatonin remains to be explained.

The white-footed mouse, *Peromyscus leucopus*, is a small, nocturnal, polyestrous North American rodent that is known to reproduce on a seasonal basis in nature. This species is readily adapted to the laboratory and breeds well in captivity.[5] In numerous studies, day length has been shown to exert a significant influence on the reproductive system of this species.[5-10] Adult male mice kept in a short photoperiod of only eight hours of light each day for six weeks experienced a reduction in gonadal weight and plasma testosterone levels.[10] In juvenile white-footed mice, exposure to short days significantly retards sexual development.[7, 10, 11]

Recent reports have demonstrated the essential nature of an intact pineal gland for the full expression of short photoperiod induced reproductive inhibition in Peromyscus.[12-14] In *P. leucopus* as in other mammals, the pineal gland synthesizes melatonin during the dark phase of the daily light-dark cycle. In previous studies, we have shown that peak pineal melatonin levels in mice kept in short photoperiod appear to be sustained longer than in animals who are exposed to long day lengths.[15] This evidence suggests that short day lengths lead to an increased production of melatonin and that high levels of melatonin cause gonadal atrophy in light restricted mice.

Evidence supporting the theory that short photoperiod inhibits the reproductive system of the white-footed mouse through the action of melatonin can be readily found in the literature.[9, 10, 11, 16, 17] In adult and juvenile mice, chronic subcutaneous melatonin-beeswax implants produce antigonadotrophic results comparable to those seen with short photoperiodic exposure.[9-11]

It is of interest to note that in the Syrian hamster, alterations in the length of the dark phase of the light-dark cycle do not seem to alter the reported pattern of pineal melatonin[18] nor will chronic melatonin implants cause gonadal atrophy.[19] In the hamster, it may be the timing of the melatonin peak relative to a circadian rhythm of sensitivity to it that determines the condition of the reproductive system. In contrast, the white-footed mouse may be measuring the amount of darkness in each day by the amount of melatonin produced by the pineal gland. Once the amount of this indole exceeds a certain threshold, reproductive quiescence ensues. The fact that continuously available melatonin produces the same effect as short photoperiod has recently resulted in the identification of a possible site of action for melatonin within the central nervous system.

Glass and Lynch[20, 21] have found that melatonin-beeswax implants into the area of the su-

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In this study, the author examines the effects of various combinations of photoperiod length and melatonin administration on the neuroendocrine-reproductive axis of female mice.

Dr. Petterborg is from the Department of Anatomy, University of Missouri School of Medicine.

prachiasmatic nuclei caused complete gonadal regression within seven weeks. The time course of this melatonin induced gonadal atrophy corresponds to that caused by peripherally administered melatonin or short photoperiod. It may be concluded, therefore, that the site of action for the inhibition of reproduction by melatonin is the hypothalamus. This conclusion is further strengthened by the discovery of the high affinity binding of melatonin in crude membrane preparations from the hypothalamic region of the bovine brain.[22]

This study examined the effects of various combinations of photoperiod length and melatonin administration on the neuroendocrine-reproductive axis of female mice.

MATERIALS AND METHODS

Adult female white-footed mice *(Peromyscus leucopus)* were housed in polycarbonate cages provided with woodshavings and cotton as nesting material. Food (Wayne Lab Blox) and water were continuously available. Mice kept under a long photo-period (LP) were exposed to overhead fluorescent lighting from 0500 h to 2100 h each day (LD 16:8 = 16 light : 8 dark per day). Animals maintained in short photo-period (SP) were housed in a light-proof cabinet in which illumination from 0900 h to 1700 h (LD 8:16) was automatically regulated. Meltonin-beeswax pellets (MEL) for subcutaneous implantation into mice treated with this indole were prepared immediately prior to use by mixing crystalline melatonin with melted beeswax. The resulting pellets, containing approximately 1 mg of melatonin in 24 mg of beeswax, were placed under the skin of anesthetized mice along the dorsal midline through a small incision. The incisions were closed with would clips. Melatonin-treated mice received implants at the beginning of the experiment and again at two to four weeks later.

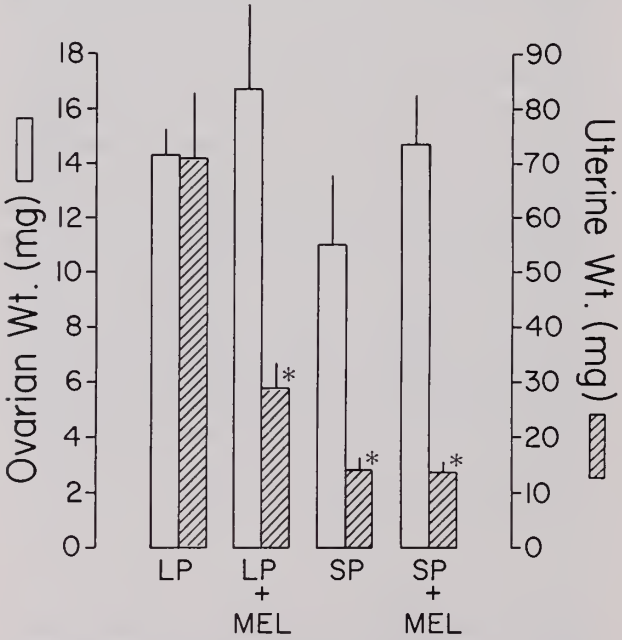

Fig. 1 Mean (± SEM) ovarian and uterine weights of adult white-footed mice maintained in either long photoperiod (LP, n = 8), short photoperiod (SP, n = 8), long photoperiod plus melatonin-beeswax pellets (LP + MEL, n = 9) or short photoperiod plus melatonin-beeswax pellets (SP + MEL, n = 6) for six weeks. LP uterine weight values are significantly elevated (* = $p < 0.01$) over values for the other treatments.

Four experimental groups were established by maintaining animals in long or short photoperiod with (LP + MEL n = 9, SP + MEL n = 6) or without melatonin (LP n = 8, SP n = 8). After six weeks the mice were decapitated and blocks of hypothalamic tissue (medial basal hypothalamus, MBH) and the reproductive organs were collected and weighed. The hypothalami were later analyzed for luteinizing hormone releasing hormone (LRH) by radioimmunoassay (RIA) based on the method of Nett *et al.*[23] The data were subjected to analysis of variance (ANOVA) followed by the Newman-Keuls test for differences among multiple mans. Data points were considered to be significantly different is $p < 0.05$.

RESULTS

Subjecting adult female white-footed mice to various combinations of short photoperiod and melatonin-beeswax implants for six weeks resulted in significantly lower uterine weights ($p < 0.01$) compared with LP animals (Fig. 1). Body weights and ovarian weights did not differ significantly between the groups. Hypothalamic LRH concentrations tended to be lower in LP animals compared to the three other groups and was significantly lower ($p < 0.05$) than the SP group (Fig. 2). There was a significant negative correlation between uterine weight and hypothalamic LRH content ($r = -0.53$, $p < 0.01$) (Fig. 3).

DISCUSSION

The inhibitory effects on reproduction of short photoperiod, chronic melatonin implants or the combination of both were shown to be indistinguishable from one another in this experiment. Uterine weights were found to be significantly depressed by short photoperiod and melatonin while ovarian weights did not differ among the groups (Fig. 1). A plausible reason for ovarian weight not being diminished in spite of an obvious depression in function (lessened estrogen

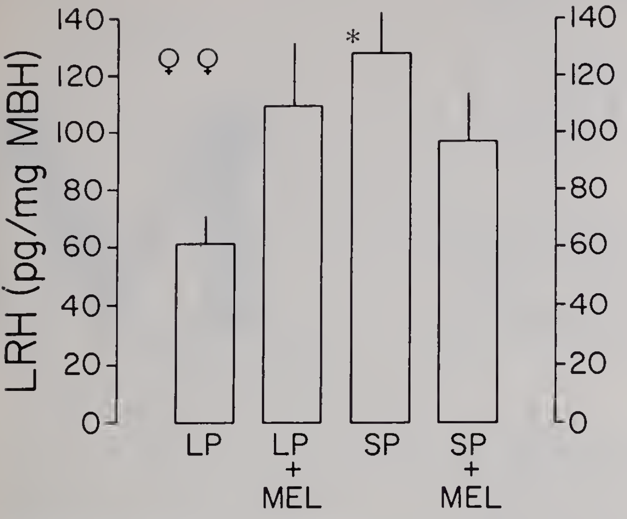

Fig. 2 Mean (± SEM) radioimmunoassayable medial basal hypothalamic (MBH) LRH levels in samples collected from adult female mice subjected to LP ($n = 8$), LP + MEL ($n = 9$) SP ($n = 8$ or SP + MEL ($n = 6$) for six weeks. Hypothalamic LRH concentration in the SP group is significantly elevated over the LRH concentration in the LP group (* + $P < 0.05$).

production as evidenced by lower uterine weights) is the possibility of persistent corpora lutea. Since prolactin is known to be luteolytic in certain situations,[24] it may be that female *Peromyscus* subjected to short photoperiod and/or melatonin have lower prolactin levels and that this allows for the persistence of corpora lutea in animals which have become anovulatory. Ovarian weight is known also to be maintained in light-deprived female Syrian hamsters, apparently due to the extensive proliferation of interstitial tissue.[25]

The involvement of the pineal gland in the reproductive physiology of photoperiodic mammals most likely occurs at the level of the hypothalamus. Due to its strategic position in the neuroendocrine-reproductive axis, the hypothalamus is the focal point for the integration of information and the initiation of the appropriate physiological responses. Pineal indoles (melatonin, serotonin, 5-hydroxytryptophol, and 5-methoxytryptophol) stereotaxically implanted into the median eminence have been reported to affect pituitary and plasma gonadotrophin levels.[26] The intraventricular injection of melatonin has been shown to cause a decrease in serum LH presumably because of an action on the hypothalamus.[27] Finally, Cardinali and coworkers[28] have found specific binding of melatonin in bovine brain tissue to be greatest in the medial basal hypothalamic region. The identification of specific receptors for melatonin in the

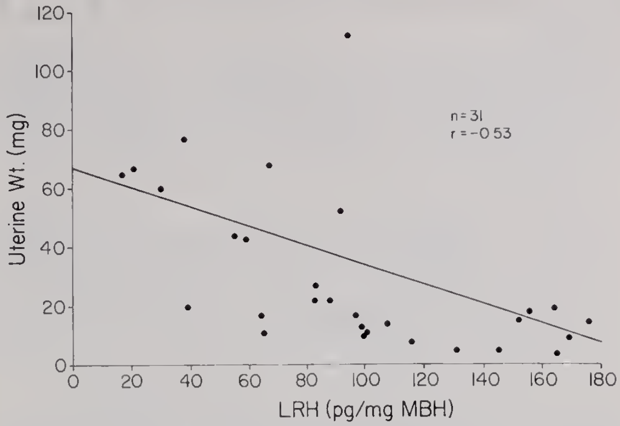

Fig. 3 Relationship between uterine weight and medial basal hypothalamic (MBH) LRH concentration in adult white-footed mice maintained under various combinations of photoperiod and melatonin administration. There is a significant negative correlation between uterine weight and hypothalamic LRH ($p < 0.01$).

hypothalamus is, indeed, strong evidence for a central nervous system site of action for pineal mediated processes.

The comparison of the levels of hypothalamic LRH found in mice subjected to various combinations of photoperiod and melatonin indicates that a possible way in which the pineal gland regulates the reproductive system is through the hypothalamic control of the pituitary. The results of this experiment (Figs. 1 & 2) show that higher levels of hypothalamic LRH are associated with diminished reproductive status. These findings support similar observations in the hamster[28, 29] and can be interpreted as being the result of a disruption in the normal release of LRH that leads to an alteration in the nature of pituitary gonadotrophin output and the subsequent involution of the reproductive system. Although there is still insufficient evidence to allow one to be specific about possible mechanisms of pineal-hypothalamic interactions, this explanation provides a working model which could serve as the experimental framework for further investigation of this system at the University of Missouri-Columbia School of Medicine.

Acknowledgement: The author wishes to express appreciation to Dr. R. J. Reiter, Department of Anatomy, University of Texas Health Science Center, San Antonio, for his support of this work.

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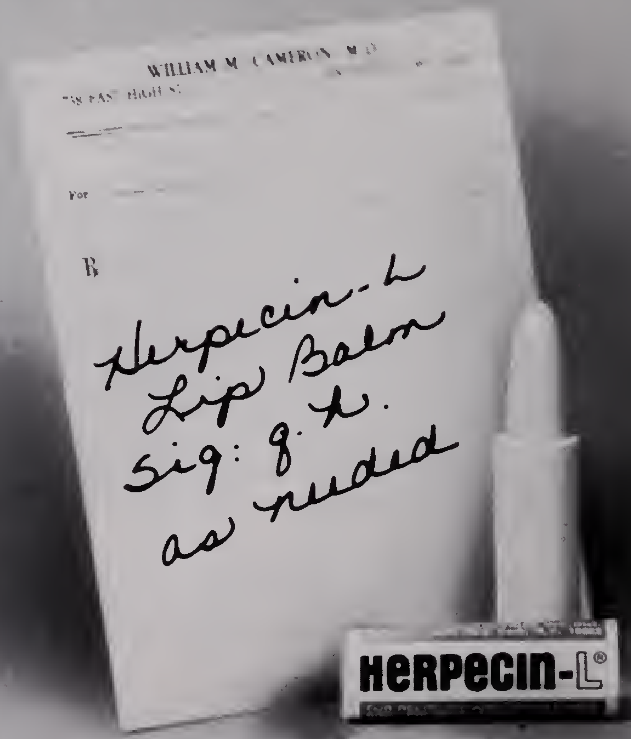

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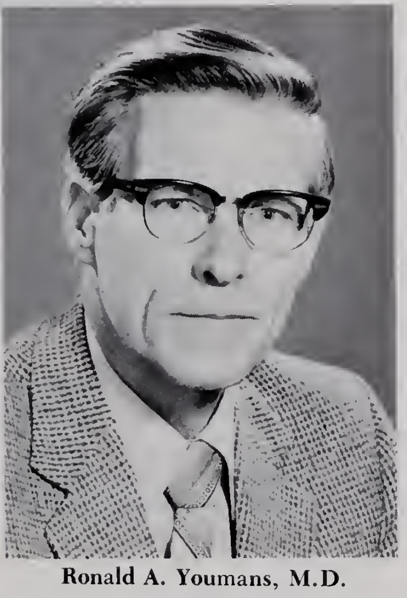
President's Message

If you have recently paid premiums for your health insurance, as it appears most Americans have not, you are aware of the remarkable escalation of premiums in the past few years. Those who are aware of the expense include the few private persons who are buying their own insurance, the employers and the federal government. Too many voters have not been paying health care insurance premiums but simply feel that they are now entitled to top quality health care and all the diagnostic procedures either the patient or the physician can conjure. Despite the huge volumes of verbiage in recent months regarding "controlling" health care costs, no significant change in the program has occurred. The AMA has been urging physicians be more aware of the costs of procedures and medications.

This can probably best be done with what has been termed "economic grand rounds." If you have not tried such a program in your hospital, let me encourage you to do so.

With the assistance of your hospital charge clerk and accountants, see if all the charges can be appropriately detailed for a single admission. I predict you will be astounded at the expense of several of the "averaged costs" that are used, as well as the "packaged costs" when a particular order is written. I am continually surprised by the expense of even simple medications such as aspirin costing $1.00 or $2.00 per tablet when the time-personnel-handlings costs are actually detailed. I am delighted to have specific antibiotics available, but some are astronomic in costs. Part of this is because the pharmaceutical houses are encouraged to price according to "the actual charge of developing that medication" rather than averaging costs to cover their developmental expenses. Just by working through a standard hospitalization for the usual patient, you will become more cognizant of the monies involved. This may make you a bit more cautious in your ordering; does it really touch the problem?


Ronald A. Youmans, M.D.

In a national survey regarding "the main problem facing health care and medicine," 62% of the respondents said that COST is the highest concern; only 10% list QUALITY as a concern; only 6% list ACCESS as a concern, and 15% have other considerations. Who is "responsible" for these high costs? The survey allowed overlapping choices. Fifty-five percent of those surveyed felt the hospitals deserved a lot of the responsibility. Forty-nine percent answered insurance companies and drug companies. Forty-two percent said the physicians are responsible for the increasing costs.

Apparently, the effect of governmental regulations was not included as one of the options. If physicians try to determine if charges are reasonable for their community, their effort is viewed with suspicion on the probability that collusion and price-control will develop. The third-party-payor, however, is obviously aware of the variation of charges in the community but has nothing to do with the selection of which physicians are seen, so there is no control. The patients are essentially taught that they are entitled to first-dollar coverage without responsibility for health care costs so it really doesn't matter. This huge volume of voters are happy to have the government and industrial companies make this payment. Regulations have made competition at this level of day-to-day medical practice impossible.

The industrial-governmental view of "competition" is to develop bidding between different groups of health care providers making contracts with the employers. Details of adequacy and patient satisfaction with such programs still will evolve.

A few of you know that when you buy insurance, you are confident that all situations are adequately covered despite the cost of the insurance. Should you have a reason to collect on the insurance, you suddenly discover there are multiple unexpected exceptions and reinterpretations though, indeed, the initial contract is legal.

The one person who can put the best prospective on health care costs is still the individual patient who utilizes the services. A percentage, direct cost-participation would suddenly make all these expenses of concern to all the citizenry with subsequent true "competition" and reduction in expense.

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Are you as "light as a candle" as you enter the room? Do you radiate good will? Hopefully, others find us bearing good will and happiness when they are around us.

As summer gets underway, may we renew, refresh and initiate plans for the days ahead. We find the wind is blowing, the birds are singing, rivers are rising, nerves are tingling, children are singing, school is out and summer is here.

May we think of these words of Henry Van Dyke from "These Things I Prize" —

These are the things I prize
  And hold of dearest worth:
Light of the sapphire skies,
Peace of the silent hills,
Shelter of the forests, comfort of the grass,
Music of the birds, murmur of the little
  rills,
Shadows of cloud that swiftly pass,
  And after showers,
  The smell of flowers
And of the good brown earth —
And best of all, along the way, friendship
  and mirth.

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May our friendships be many and varied as we are and may we have a safe, happy and productive summer.

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Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome. *Oral forms* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures; tetanus; anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

> ***Usage in Pregnancy:*** **Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

ORAL. Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE. *To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used I.V.: inject slowly, taking at least one minute for each 5 mg (1 ml) given; do not use small veins,* i.e., *dorsum of hand or wrist; use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Injectable Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of diazepam, *i.e.*, phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE. Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia. In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have heen reported.

Dosage: Individualize for maximum beneficial effect.

ORAL *Adults:* Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche) tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease capsules (15 to 30 mg) daily. Acute alcohol withdrawal—tablets, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 capsules (30 mg) the first 24 hours, then 1 capsule (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—tablets, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily. Adjunctively in convulsive disorders—tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily.

Geriatric or debilitated patients: Tablets—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children: Tablets—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose (not for use in children under 6 months)

INJECTABLE: Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.)

For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., *dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children *administer I.V. slowly*; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg adult dose administered slowly, repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. Infants (over 30 days) and children (under 5 years), 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). Children 5 years plus, 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may he helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levarterenol or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL. Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules—15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

INJECTABLE Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.

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Guest Editorial

'THIS, TOO, WILL PASS AWAY'

Recently, my mind recalled the above well known phrase from the old, familiar legend about hearing some of my colleagues argue strongly for opposite points of view regarding some therapy. You may remember the story of the ruler who, out of need for an inspiration, asked his wise men to give him thoughts that would help him keep up his spirit. The wise men, after much consideration, gave him the simple short phrase, "This too will pass away." The ruler had it engraved on a ring and felt lifted by it whenever adversity in the affairs of state buffeted him.

No less, this axiom has application in several ways to clinical pediatrics. First, it senses the pointless nature of being too dogmatic about what appears so true today. Today's truth will be tomorrow's fable. How many observations and treatments in the past are no longer considered useful today? Although purging and blood letting have virtually disappeared, a variety of recent management techniques have also undergone atrophic disappearance as well. Similarly, diagnostic criteria and laboratory tools are in the process of change.

I can remember the time we carried out nasopharyngeal and throat cultures for various organisms such as *Pneumococcus* and *Hemophilus Influenza* as well as for *Hemolytic Streptococcus* and would weigh the cultures strongly in our decisions regarding antibiotic treatment. They now are in less favor. Perhaps later observations will even elevate them back into favor?

Knowledge is not absolute fact, but it is dynamically evolving as a flowing stream with its changing scenes. Thereby, the physician should not be too sure. Place and population are additional variables that lead to different conclusions. One is reminded of Harry Truman's comment, "I always try to tell them that it is what you learn after you know it all that really counts." Dogma has little role in medicine because it too "will pass" and because the patient does not exist as a statistic but is an individual with a uniqueness unlike anybody else.

So many other illustrations exist today. The diagnosis and treatment of hyperactivity, the pattern of infant feeding and the management of acute infection are examples of considerable changes over time — past, present and future. It is always surprising that medicine, which should be one of the more humane of the applied arts and sciences, would be often discussed as "controversy" and "disagreement." Although honest debate is rich in the development of ideas, the adversative approach to patient care is fraught with great problems, particularly to the patient. It is so useful to keep in mind the title of this essay.

In another sense, "This too will pass away," has some direct implications in patient care. So much of illness requires *time* to improve. So much of the sadness and pain of problems for a parent, be it a grave diagnosis or death, requires time to grieve and heal. But, "This too will pass away."

An important role for the physician is frequently to help people cope with the pain of illness and life's adversities. In standing by with understanding and interest, the physician often helps individuals move along the arduous course of personal growth and adaptation. It is a critical component of patient care. So often the parent may ask "what if" and "if it hadn't been so." Usually, the only response is that we live in the "real" and not in the "if" world. One can watch the slow dawning of strength and courage with our so feeble and yet so strong words, "Let's wait and see."

One is reminded of Davis's classic study of polio victims and their families documented in *Passage Through Crisis*.* His description of the uncertainty in prognosis is to some extent used by the physician to get "the patient, ultimately, to accept and put up with a state-of-being that initially is intolerable to him." Even under conditions of the greatest sensitivity there is a movement for family and child in such situations that is necessary to attain a viable, living perspective. Most frequently, people feel that with certain factual knowledge, one can reach such goals with more rapid ease. However, I am impressed that even with the most sensitive guidance and empathy, a certain amount of time is necessary in order to attain wisdom and acceptance. This time varies for different persons and under different conditions.

Finally, there are so many difficult moments for a physician. His sadness, as a patient suffers or dies, cannot easily be assuaged by any person. He requires mechanisms such as hobbies, kicking the doors (and not the nurse or his wife and children), faith or just downright withdrawal for a brief respite to be able to return to the fray. We, too, have to learn repeatedly that "This too will pass away."

Giulio J. Barbera, M.D.
Professor and Chairman
Department of Child Health
University of Missouri-Columbia
School of Medicine

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* Davis, F., *Passage Through Crisis*, Indianapolis, Indiana; Bogs-Merrill Company, Inc., 1963.

MSMA Members Receive Physician's Recognition Award

Twenty-two MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the period ending in April, 1983.

The award is a voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in Missouri Medicine as they are received from the AMA.

Carol R. Archer, Clayton
V. Bryce Ballard, Kansas City
William F. Benson, Kansas City
Glenna C. Burton, Columbia
James A. Diestelhorst, Creve Coeur
Virgilio P. Dumadag, St. Louis
Dante O. Garrido, St. Joseph
Alex Harrell, St. Louis
Melvin G. Hector, Columbia
Terry S. Hoyt, Columbia
Perry U. Hunsley, Branson
Nicholas C. Kamakas, Florissant
Keith A. LaFerriere, Springfield
Henry A. Lee, Kansas City
Byron A. Milgram, Kansas City
Jack L. Reddin, Independence
Dipak C. Shah, Kansas City
James A. Shapero, Columbia
John B. Shapleigh, St. Louis
Marvin A. Singleton, Joplin
Pedro L. Suarez-Solar, St. Charles
Michael L. Weaver, Kansas City

St. John's Mercy Medical Center
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This conference is designed to help professionals better identify this group of patients and to establish an organized, multi-disciplinary treatment approach. A model for a sub-unit specialty designed to treat borderline patients will be presented. This one-day intensive conference will be helpful to all therapists involved in borderline treatment and is especially recommended for physicians, psychiatrists, psychologists, social workers, nurses, activities therapists and others who interface with these patients within the hospital setting.

Registration: Physicians - $100; others $35. Includes lunch.

Make check payable to: St. John's Mercy Medical Center

CME CREDITS APPLIED FOR

For further information contact:
Jerold J. Kreisman, M.D.
St. John's Mercy Medical Center
615 South New Ballas Road
St. Louis, Missouri 63141
Phone (314) 569-1717

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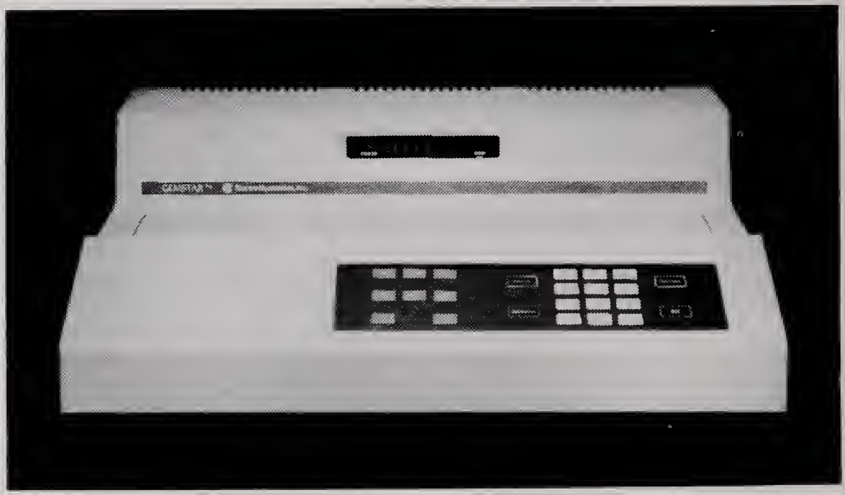

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NEWS About CME Events

Menorah Medical Center
4949 Rockhill Rd., Kansas City 64110
(816) 276-8000
Contact: Erich W. Pollak, M.D., Director of Surgical Education, for the following:

4:00 PM — Basic Sciences to Surgery Seminar
(Monday through Friday)
3:00 PM — Surgical Rounds
(Every Wednesday and Friday)
4:00 PM — Surgical Techniques Seminar
(Every second and fourth Wednesday)
4:45 PM — Morbidity and Mortality Conference
(Every fourth Wednesday)
8:00 AM — Morbidity and Mortality Conference
(Every second Saturday)
7:00 AM — Surgical Grand Rounds
(First and third Thursdays)

Contact: David S. Sneid, M.D., Director of Medical Education, for the following:

9:00 AM — Medicine Staff Conference
(First, third and fourth Tuesdays)

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
Contact: Alta Bingham

Sept. 23-24	The Long Weekend (Alameda Plaza Hotel)
Nov. 3-5	Annual Fall Clinical Conference — Kansas City Southwest Clinical Society (Alameda Plaza Hotel)
Dec. 8-10	The Heart 1983 (Alameda Plaza Hotel)
(1984)	
Jan. 14-21	Traveling Medical Education Course K.C. Southwest Clinical Society (Steamboat Springs, Colo.)
Feb. 11-18	Traveling Medical Education Course K.C. Southwest Clinical Society (Hawaii-Tentative)
Feb. 24-25	The Long Weekend (Westin Crown Center Hotel)
Mar. 15-17	Perspectives in Medical Care (Alameda Plaza Hotel)
Mar. 17-24	Traveling Medical Education Course (Colorado-Tentative)
April 12-14	Update in Obstetrics-Gynecology (Alameda Plaza Hotel)

St. Louis University Medical Center
Dept. of Orthopedic Surgery
1325 S. Grand Blvd.

Oct. 29-30	Spinal Disorders in Children

> *The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in* MISSOURI MEDICINE. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

University of Missouri-Columbia School of Medicine Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
Contact: William D. Bradshaw, M.D., Director

Aug. 6, 7	Sixth Annual Soft Tissue Surgery Workshop (St. Louis)
Oct. 20-22	Fifth Annual Advances in Rheumatology Symposium (Columbia)
Nov. 4, 5	26th Annual Physicians Weekend (Columbia)

The Ed Bixby Institute Research Medical Center
2316 E. Meyer Blvd., Kansas City 64132
(816) 276-4306
Contact: Jane L. Jackson, Director of Seminars

Aug. 3	New Radiology Techniques

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 367-9673
Contact: Loretta Giacoletto, Office of CME

Oct. 26-Nov. 4	Clinical Allergy for the Practicing Physicians (Paris and Montpellier, France)
Nov. 11-13	Tenth Annual Symposium: Anesthesia and The Geriatric Patient (Contact: Dept. of Anesthesiology — 314-454-2858)

American Burn Association
Saint Elizabeth Community Health Center
555 South 70th, Lincoln, Neb. 68510
Contact: Robert W. Gillespie, M.D.

Sept. 16-17	Comprehensive Care of the Burn Patient (Hyatt Regency Hotel, Kansas City)

NEWS From the Medical Schools

UNIVERSITY OF MISSOURI-COLUMBIA

Dr. Perry

Michael Clinton Perry, M.D., has been named chairman of the Department of Medicine at the School of Medicine. The appointment became effective May 9.

"Dr. Perry's strengths include intellectual curiosity, teaching ability and enthusiasm," said *Dr. William D. Bradshaw*, interim dean of the School of Medicine, who announced the appointment. "He is an active researcher and educator as well as an outstanding clinician," said Dr. Bradshaw. "The department of medicine needs such qualities in its leader," he added, "because it embodies the central core of knowledge of diagnosis, management and research in any medical school."

Dr. Perry earned his M.D. degree from Wayne State University Medical School in Detroit in 1970. He completed his internship and residency at the Mayo Graduate School of Medicine in Rochester, Minn. From 1972 to 1974, he was a fellow in hematology at that institution and a fellow in oncology there from 1974 to 1975.

Dr. Perry came to UMC in 1975 as assistant professor of hematology and medical oncology and received the rank of associate professor in 1980. He was appointed director of the Division of Hematology and Medical Oncology in 1982. He also serves as a consultant to the Ellis Fischel State Cancer Center and the Harry S. Truman Veterans Administration Hospital in Columbia.

In 1981, Dr. Perry was selected the American Society of Internal Medicine's Young Internist of the Year. The award is presented to a member of the society, under age 40, for outstanding achievements in the socioeconomics of medicine. A Fellow of the American College of Physicians, Dr. Perry is certified in hematology and oncology by the American Board of Internal Medicine.

Among his other professional activities, Dr. Perry is chairman of the Missouri Cancer Control Program steering committee, president-elect of the Missouri Society of Internal Medicine and principal investigator of the National Institutes of Health-funded Cancer and Leukemia Group B treatment group. He also is a member of the MISSOURI MEDICINE Editorial Board.

Dr. Perry replaces Department of Medicine Interim Chairman *Dr. E. Dale Everett*, professor of medicine, who will continue to serve as director of the department's infectious diseases division.

Dr. Roger D. Harting has been named interim director of the School of Health Related Professions. The promotion of Dr. Harting, who has been the school's associate director, was announced by Dr. Bradshaw, interim dean.

Dr. Harting received a bachelor of science degree from Fort Hays Kansas State College in 1960. In 1963, he earned a master of education degree and, in 1969, a doctor of education degree from UMC.

From 1969 to 1972, he served as assistant professor and assistant to the deans of education and medicine for Allied Health Education at UMC. He was promoted to associate professor in 1972. In 1978, he was named associate director of the School of Health Related Professions, which replaced the Allied Health Education program.

In 1979, Dr. Harting was made a full professor. He continued to serve as associate director of the school until the present time. Since he began his association with the school, its size has increased nearly ten-fold.

Dr. James M. A. Weiss, professor and chairman of the Department of Psychiatry, moderated a panel discussion on suicide at the American College of Psychiatrists' annual meeting in New Orleans recently. *Dr. Armando R. Favazza*, professor of psychiatry, was confirmed a Fellow in the College during the meeting. He is the youngest person to be so honored by the organization. Dr. Favazza is the editor of the *Journal of Operational Psychiatry*, the co-author of two books and has written extensively on social and cultural psychiatry.

Weldon D. Webb has been appointed interim director of Continuing Education and Extension for the Health Professions at the School of Medicine. Mr. Webb, previously assistant director of the program, was promoted to the post by Vice-Provost for Extension *Dr. Leonard C. Douglas* at the suggestion of Dr. William D. Bradshaw, interim dean.

Mr. Webb, who was selected an Outstanding Young Man of America in 1979, is a member of Meeting Planners International, the Professional Convention Management Association and the Missouri Association for Adult Continuing Education.

UNIVERSITY OF MISSOURI-KANSAS CITY

Dr. Frank E. Stinchfield, an internationally known orthopedic surgeon and past-president of the American Academy of Orthopedic Surgeons, delivered the second annual Rex L. Dively Memorial Lecture on May 6. *Mrs. Lillian Diveley* established the lectureship for the advancement of orthopedic residency education at the medical school in commemoration of her late husband.

Dr. Harold Sofield, president emeritus of orthopedic residency education at Northwestern University, presented the first Dively Lecture in 1982.

The School of Medicine was the recipient of two national media awards for audiovisual productions at the 25th annual meeting of the Health Sciences Communications Association (HeSCA) in San Francisco in April. UMKC was a winner of the second-place award in still media: "How to Assess Controlled Clinical Trials" written by *Paul Cuddy*, Pharm. D., and *Julie Elenbaas*, Pharm. D., associate professors of pharmacy and medicine. "Aspects of Geriatric Medicine: A Self-Instructional Package," written by *Dr. Richardson K. Noback*, professor and docent, received the Award of Merit in the still media category.

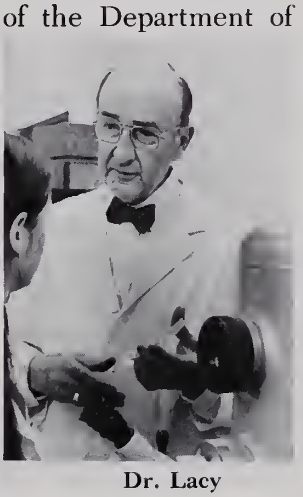
Dr. Benjamin Spock, whose book, "Baby and Child Care," has sold more than 30 million copies in 40 languages, spoke on the hazards of nuclear arms at the School of Medicine on April 28.

David L. Hayes, M.D., a 1976 graduate of the School of Medicine, has been elected to fellowship in the American College of Cardiology. He is a consultant in cardiovascular diseases and internal medicine at the Mayo Clinic in Rochester, Minn.

Charles B. Wilkinson, M.D., associate dean and professor of medicine, was elected treasurer of the Group for the Advancement of Psychiatry at the April meeting. Dr. Wilkinson also is executive director of the Greater Kansas City Mental Health Foundation.

Ernest D. Szabados, M.D., clinical assistant professor of orthopedic surgery, has been named vice-president-elect of the American Academy of Neurological and Orthopaedic Surgeons for 1985.

WASHINGTON UNIVERSITY


Dr. Lacy

Paul E. Lacy, M.D., Edward Mallinckrodt Professor and chairman of the Department of Pathology, has been elected to the National Academy of Sciences, one of the highest honors that can be given to an American scientist or engineer.

Dr. Lacy, one of 60 new members, was elected to the academy in recognition of his distinguished and continuing achievements in successfully transplanting islets, clusters of pancreas cells that produce insulin. His work represents a significant advance in immunology and organ transplantation, as well as in the continuing search for better methods of treating insulin-dependent diabetics.

A native of Trinway, Ohio, Dr. Lacy earned his M.D. degree cum laude in 1948 and the master of science degree in anatomy from Ohio State University. He received his Ph.D. degree in pathology in 1955 from the Mayo Foundation of the University of Minnesota.

Dr. Lacy served as assistant instructor in the anatomy department at Ohio State University, interned at White Cross Hospital in Columbus, Ohio and served a fellowship in pathology at the Mayo Clinic. He joined the Department of Anatomy at Washington University in 1955 as a postdoctorate fellow of the National Cancer Institute's Public Health Service and was named an instructor in the Pathology Department in 1956.

Dr. Lacy was named the Edward Mallinckrodt Professor and chairman of the department in 1961. Since then he has served as pathologist-in-chief of the Barnes Hospital, The Jewish Hospital of St. Louis and the St. Louis Children's Hospital.

H. Brent Clark, M.D., Ph.D., assistant professor of pathology, has received a three-year, $124,031 grant from the National Multiple Sclerosis Society.

(Continued on next page)

Dr. Clark will study the biochemical structure of myelin.

Dr. Clark also is on staff at the Barnes Hospital.

More than 3,000 physicians from throughout the United States were invited to return to St. Louis on May 5-7 for "Reunion 1983," sponsored by the Washington University Medical Center Alumni Association.

Eighteen Washington University faculty members lead the reunion's scientific program with sessions on the information explosion, ischemic heart disease and selected medical center research projects. "Reunion 1983" also featured a full schedule of social events, including luncheons, tours and parties. Activities began at noon on May 5. Alumni were welcomed by *Richard Parsons*, president of the medical school alumni association, and by *M. Kenton King*, M.D., dean of the School of Medicine.

In Memoriam

Joseph H. Ogura, M.D., 1038 Winwood Dr., St. Louis 63124; graduate of the University of nia-San Francisco, 1941; member of St. Louis Metropolitan Medical Society; aged 67; died April 14, 1983.

Harold J. Ott, Sr., M.D., 2816 Sutton Ave., St. Louis 63143; graduate of St. Louis University, 1927; member of St. Louis Metropolitan Medical Society; aged 81; died April 15, 1983.

Harry C. Lapp, M.D., 211 Villia 1, 612 Shamrock, Lee's Summit 64063; graduate of Harvard University, 1923; member of Jackson County Medical Society; aged 84; died April 18, 1983.

John Koehler, M.D., 1001 Manitou Rd., Joplin 64801; graduate of Washington University, 1946; member of Jasper County Medical Society; aged 60; died April 20, 1983.

Robert A. Slickman, M.D., 200 Penn Park, 2929 Baltimore, Kansas City 64108; graduate of Creighton University, 1951; member of Jackson County Medical Society; aged 58; died April 25, 1983.

References: 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Kramer MJ, Mauriz YR, Robertson TL, Timmes MD: Morphological studies on the effect of subinhibitory and inhibitory doses of sulfamethoxazole-trimethoprim combination on *Escherichia coli*. Presented at the 12th International Congress of Chemotherapy, Florence, Italy, Jul 19-24, 1981. **3.** Spicehandler J *et al: Rev Infect Dis 4*:562-565, Mar-Apr 1982. **4.** Stamey TA: *Pathogenesis and Treatment of Urinary Tract Infections*. Baltimore, Williams & Wilkins, 1980, p. 13. **5.** Ronald AR: *Clin Ther 3*:176-189, Mar 1980. 6. Cooper J, Brumfitt W, Hamilton-Miller JMT: *J Antimicrob Chemother 6*:231-239, 1980. **7.** Gower PE, Tasker PRW: *Br Med J 1*:684-686, Mar 20, 1976. **8.** Cosgrove MD, Morrow JW: *J Urol 111*:670-672, May 1974. 9. Iravani A *et al: Antimicrob Agents Chemother 19*:598-604, Apr 1981. **10.** Schaeffer AJ, Flynn S, Jones J: *J Urol 125*:825-827, Jun 1981. **11.** Rous SN: *J Urol 125*:228-229, Feb 1981. **12.** BAC-DATA Medical Information Systems, Inc., Bacteriologic Reports, Winter Series, 1976-82.

Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients. *Pregnancy:* Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: *Not recommended for infants less than two months of age.*

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets*, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 20. *Tablets*, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per tea spoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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In vitro studies demonstrate

Bactericidal activity

with minimal resistance

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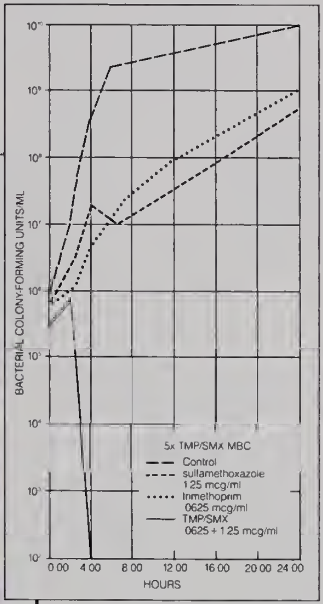
Percent of isolates of common uropathogens sensitive to BACTRIM and to other antimicrobials

	Escherichia coli	*Klebsiella pneumoniae*	*Proteus mirabilis*	*Proteus vulgaris*	*Proteus sp.*	*Enterobacter sp.*	*Enterobacter aerogenes*	*Enterobacter cloacae*
BACTRIM	**96%** 328,598	**89%** 63,551	**93%** 62,691	**84%** 4174	**91%** 4381	**88%** 1736	**96%** 7326	**92%** 11,856
ampicillin	72% 345,209	5% 65,466	85% 67,338	16% 4381	70% 4402	10% 1775	9% 7759	11% 12,091
cephalexin†	81% 343,339	85% 67,031	92% 67,027	16% 4398	80% 4365	22% 1834	13% 7571	12% 11,846
nitrofurantoin	97% 307,785	65% 61,162	7% 59,775	13% 3848	14% 3059	67% 1707	60% 7109	67% 10,830

†Analogous to cephalothin, the primary antibiotic disc used in testing.
Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series, 1981-82.
Numbers under percentages refer to the projected number of isolates tested.

RAPID *IN VITRO* DESTRUCTION OF *E. COLI**



Kill curve kinetics of Bactrim and its individual components against *E. coli in vitro.*[1*]

The bactericidal action of Bactrim has been demonstrated *in vitro* on laboratory strains of *E. coli*[1,2] and on clinical isolates of *E. coli, Klebsiella-Enterobacter, Proteus mirabilis* and *Morganella morganii*[3]—the most common causative organisms of urinary tract infections.[4] More than 100 published studies attest to the efficacy of Bactrim in recurrent urinary tract infections due to these organisms.[5] In comparative studies with other antimicrobials, Bactrim has consistently demonstrated unsurpassed efficacy during therapy.[6-11]

Resistance to Bactrim develops more slowly than to either of its components alone *in vitro.** Among urinary tract isolates, resistance has rarely emerged in susceptible strains.[5,12] Bactrim is contraindicated in pregnancy at term, during lactation, in infants less than two months old and in documented megaloblastic anemia due to folate deficiency.

Initial episodes of uncomplicated urinary infections should be treated with a single-agent antimicrobial.

Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

b.i.d. *for recurrent urinary tract infections*

**In vitro* data do not necessarily predict clinical results.

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See next page for references and a summary of product information.

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TUCKS
Directions
Warning
Pre-Moistened Hemorrhoidal Vaginal Pads
Contains
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40 PADS
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Rectal Cream with Hydrocortisone Acetate
Caution: Federal law prohibits dispensing without prescription
1 oz (28.4 grams)
PULL APART

...another well-known pair that work so well together! Ninety-five percent of colon/rectal surgeons surveyed added Tucks pads concomitantly to hemorrhoidal treatment programs.*

Anusol-HC®
Suppositories/Cream
with Hydrocortisone Acetate

*The #1 physician-prescribed product for hemorrhoids and other common anorectal disorders***

- ☐ *Antiinflammatory, to relieve itch, pain, and edema.*
- ☐ *Astringent, to protect against further tissue damage.*
- ☐ *Emollient, for easier bowel movements.*

And, when pain is a special problem, Anusol® Ointment offers the benefits of the topical anesthetic pramoxine HCl.

TUCKS® Pre-Moistened Hemorrhoidal/Vaginal Pads

*The #1 hemorrhoidal** pad for added external relief and gentle cleansing.*

- ☐ *Soothes, cools, comforts, and cleanses irritated anorectal areas.*

Once pain and inflammation subside, for dual action recommend regular ANUSOL® and TUCKS®.

Please see opposite page for brief summary of prescribing information.

**Meeting of Am Soc Colon/Rectal Surgeons, May 1980*
***Data on file, Marketing Research Dept. Parke-Davis*

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Vaginal Uses — Comforting as an adjunct in postoperative care after episiotomies and other vaginal surgery or when relief from vaginal itching, burning or irritation is required.

ANUSOL-HC® SUPPOSITORIES
Hemorrhoidal Suppositories with Hydrocortisone Acetate

ANUSOL-HC® CREAM
Rectal Cream with Hydrocortisone Acetate

Caution: Federal law prohibits dispensing without prescription.

Description: Each Anusol-HC Suppository contains hydrocortisone acetate, 10.0 mg; bismuth subgallate, 2.25% bismuth resorcin compound, 1.75%; benzyl benzoate, 1.2%, Peruvian balsam, 1.8%; zinc oxide, 11.0 mg; also contains the following inactive ingredients dibasic calcium phosphate, and certified coloring in a hydrogenated vegetable oil base

Each gram of Anusol-HC Cream contains hydrocortisone acetate, 5.0 mg, bismuth subgallate, 22.5 mg, bismuth resorcin compound, 17.5 mg; benzyl benzoate, 12.0 mg; Peruvian balsam, 18.0 mg; zinc oxide, 110.0 mg; also contains the following inactive ingredients propylene glycol, propylparaben, methylparaben, polysorbate 60 and sorbitan monostearate in a water-miscible base of mineral oil, glyceryl stearate and water

Anusol-HC Suppositories and Anusol-HC Cream help to relieve pain, itching and discomfort arising from irritated anorectal tissues These preparations have a soothing, lubricant action on mucous membranes, and the antiinflammatory action of hydrocortisone acetate in Anusol-HC helps to reduce hyperemia and swelling

The hydrocortisone acetate in Anusol-HC is primarily effective because of its antiinflammatory, antipruritic and vasoconstrictive actions

Indications and Usage: Anusol-HC Suppositories and Anusol-HC Cream are adjunctive therapy for the symptomatic relief of pain, itching and discomfort in. external and internal hemorrhoids, proctitis, papillitis, cryptitis, and fissures, incomplete fistulas, pruritus ani and relief of local pain and discomfort following anorectal surgery

Anusol-HC is especially indicated when inflammation is present After acute symptoms subside, most patients can be maintained on regular Anusol® Suppositories or Ointment

Contraindications: Anusol-HC Suppositories and Anusol-HC Cream are contraindicated in those patients with a history of hypersensitivity to any of the components of the preparations

Warnings: The safe use of topical steroids during pregnancy has not been fully established Therefore, during pregnancy, they should not be used unnecessarily on extensive areas, in large amounts or for prolonged periods of time.

Precautions: General: Symptomatic relief should not delay definitive diagnoses or treatment.

Prolonged or excessive use of corticosteroids might produce systemic effects

If irritation develops, Anusol-HC Suppositories and Anusol-HC Cream should be discontinued until the infection has been adequately controlled

Anusol-HC is not for ophthalmic use

Pregnancy: See "WARNINGS"

Pediatric Use: Care should be taken when using the corticosteroid hydrocortisone acetate in children and infants

Dosage and Administration: Anusol-HC Suppositories — Adults Remove foil wrapper and insert suppository into the anus Insert one suppository in the morning and one at bedtime for 3 to 6 days or until inflammation subsides. Then maintain comfort with regular Anusol Suppositories.

Anusol-HC Cream—Adults: After gentle bathing and drying of the anal area, remove the tube cap and apply to the exterior surface and gently rub in. For internal use, attach the plastic applicator and insert into the anus by applying gentle continuous pressure. Then squeeze the tube to deliver medication. Cream should be applied 3 or 4 times a day for 3 to 6 days until inflammation subsides Then maintain comfort with regular Anusol Ointment.

NOTE: If staining from either of the above products occurs, the stain may be removed from fabric by hand or machine washing with household detergent.

How Supplied: Anusol-HC Suppositories — boxes of 12 (N 0071-1089-07) and boxes of 24 (N 0071-1089-13) in silver foil strips with Anusol-HC printed in black.

Anusol-HC Cream — one-ounce tube (N 0071-3090-13) with plastic applicator.

Store between 15° - 30° C (59° - 86° F).
1089G010

New Members

Robert K. Burlingame, M.D., P. O. Box 1611 SSS, 430 South Ave., Springfield 65807, has become a member of Greene County Medical Society. Dr. Burlingame is a native of Valdosta, Ga., received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Nebraska in 1971. He specializes in psychiatry.

Stanley C. Burns, M.D., 20 Hughes Ford Rd., Sullivan 63080, has become a member of Franklin-Gasconade-Warren County Medical Society. Dr. Burns is a native of Lebanon, received his preliminary education at Southwest Missouri State University and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in family practice.

Chung S. Chun, M.D., Suite T205, 6420 Prospect, Kansas City 64132, has become a member of Jackson County Medical Society. Dr. Chun is a native of Korea, received her preliminary education at Pyongyang Medical College and her M.D. degree at Severance Union Medical College in 1953. She specializes in pediatrics.

Stephen H. Cruikshank, M.D., Truman Medical Center, 2301 Holmes, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Cruikshank is a native of Parkersburg, W.Va., received his preliminary education at West Virginia Wesleyan College and his M.D. degree at Wake Forest University in 1976. He specializes in obstetrics and gynecology.

Monte A. Del Monte, M.D., 1465 S. Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Del Monte is a native of Milwaukee, Wis., received his preliminary education at Johns Hopkins University and his M.D. degree at Johns Hopkins University in 1974. He specializes in ophthalmology.

Charles C. D. DuMontier, M.D., 1465 S. Grand, St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. DuMontier is a native of St. Louis, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at St. Louis University in 1979. He specializes in radiology.

(Continued on next page)

James H. Ellegood, M.D., 703 W. Main, Fredericktown 63645, has become a member of Mineral Area County Medical Society. Dr. Ellegood is a native of Winfield, Ala., received his preliminary education at St. Louis University and his M.D. degree at Center for Technological Studies in 1981. He specializes in general practice.

Michael J. Fedak, M.D., 1759 Goldenhorn Ct., Maryland Heights 63043, has become a new member of St. Louis Metropolitan Medical Society. Dr. Fedak is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at the University of Missouri-Columbia in 1982. He specializes in internal medicine.

Ronald B. Frenkel, M.D., 694-A Tempo Trail Dr., Creve Coeur 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Frenkel is a native of Bridgeport, Conn., received his preliminary education at Washington University and his M.D. degree at the University of Connecticut in 1982.

Felicitas Z. Gatchalian, M.D., 2713 Laclede Station Rd., Apt. D., Maplewood 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Gatchalian is a native of the Philippines, received her preliminary education at the University of Santo Tomas and her M.D. degree at the University of Santo Tomas in 1976. She specializes in internal medicine.

Darrell L. Griffin, M.D., 503 Potosi, Farmington 63640, has become a member of Mineral Area County Medical Society. Dr. Griffin is a native of Farmington, received his preliminary education at Southeast Missouri State University and his M.D. degree at the University of Missouri-Columbia in 1970. He specializes in dermatology.

Thomas E. Hill, M.D., 1332 Westbrooke Terrace Dr., St. Louis 63128, has become a member of St. Louis Metropolitan Medical Society. Dr. Hill is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1979. He specializes in radiology.

Richard D. Jacobs, M.D., 3908 S. Grand Blvd., St. Louis 63118, has become a member of St. Louis Metropolitan Medical Society. Dr. Jacobs is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1976. He specializes in internal medicine.

Young R. Kim, M.D., Farmington State Hospital, Farmington 63640, has become a member of Mineral Area County Medical Society. Dr. Kim is a native of Seoul, Korea, received her preliminary education at the University of Korea and her M.D. degree at the University of Korea in 1962. She is in general practice.

Alywin E. Kluttz, M.D., 1259 N. Kingshighway, St. Louis 63113, has become a member of St. Louis Metropolitan Medical Society. Dr. Kluttz is a native of Wadesboro, N. C., received his preliminary education at the University of North Carolina and his M.D. degree at the University of North Carolina in 1979. He specializes in family practice.

Johnett LaBrie, M.D., 3600 Broadway, Suite 25, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. LaBrie is a native of Little Rock, Ark., received her preliminary education at Hampton Institute and her M.D. degree at Eastern Virginia Medical School in 1978. She specializes in family practice.

Patricia A. Mooney, M.D., Truman Medical Center, 2301 Holmes, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Mooney is a native of Kansas City, received her baccalaureate and her M.D. degree at the University of Missouri-Kansas City in 1978. She specializes in obstetrics and gynecology.

Frederick V. Plapp, M.D., Community Blood Center, 4040 Main, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Plapp is a native of Kansas City, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1975. He specializes in clinical pathology and blood banking.

Kalaichelvi Rathnakumar, M.D., 2902 McClelland Blvd., Suite 5, Joplin 64801, has become a member of Jasper County Medical Society. Dr. Rathnakumar is a native of India, received her preliminary education at Madras University and her M.D. degree at Madras University in 1974. She specializes in anesthesiology.

John F. Rigdon, M.D., 6700 Troost Ave., Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Rigdon is a native of Cape Girardeau, received his preliminary education at Southeast Missouri State University and his M.D. degree at the University of Missouri in 1976. He specializes in anesthesiology.

Ronald Rigolosi, M.D., 373 W. 101st Terr., Kansas City 64114, has become a member of Jackson County Medical Society. Dr. Rigolosi is a native of Passaic, N. J., received his preliminary education at Syracuse University and his M.D degree at Rutgers Medical School in 1975. He specializes in internal medicine.

Jay D. Schmauch, D.O., 17894 Buckingham Ct., Independence 64057, has become a member of Jackson County Medical Society. Dr. Schmauch is a native of Bismarck, N. D., received his preliminary education at the University of Montana and his D.O. degree at the Kansas City College of Osteopathy and Surgery in 1981. He specializes in internal medicine.

Howard N. Short, M.D., 800 E. 5th, Washington 63090, has become a member of Franklin-Gasconade-Warren County Medical Society. Dr. Short is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at St. Louis University in 1978. He specializes in ophthalmology.

Mark J. Skelley, M.D., 2727 McClelland, Joplin 64801, has become a member of Jasper County Medical Society. Dr. Skelley is a native of Dubuque, Iowa, received his preliminary education at the University of Iowa and his M.D. degree at the University of Iowa in 1974. He specializes in oncology and hematology.

James M. Walden, Jr., M.D., 3239 Victor, Kansas City 64128, has become a member of Jackson County Medical Society. Dr. Walden is a native of Kansas City, received his preliminary education at Pomona College and his M.D. degree at Baylor College in 1981. He specializes in internal medicine.

New Student Members

St. Louis University

Doris Jean Armour
Timothy P. Besser
Ralph P. Broadwater
Karen A. Johnson
Stephen L. Keith
Kathyann E. Roberti-Kiepura
Mary T. McCluskey
Renee L. Mohrmann
Karl J. Mueller
Thomas D. Myles
Michael J. Palazzolo
John W. Ragsdale

University of Missouri-Columbia

Thomas L. Carlisle
Cynthia J. Hall
Willie J. White
Martin F. Wieschhaus

University of Missouri-Kansas City

Michael E. Mulligan
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in Brief

A summary of AMA, medical & health news

American Medical Association/535 North Dearborn Street/Chicago, Illinois 60610/Phone (312) 527-1500/TWX 910-221-0300

DESPITE THE AMA'S controversy with the Federal Trade Commission, the public's trust in the Association increased 2% (from 70% to 72%) in the past two years, according to public opinion surveys sponsored by the AMA Group on Public and Federation Relations. The majority of Americans (51%) have never heard of the FTC or do not know what it does. Eighty-seven percent were unaware of the controversy about the FTC's jurisdiction. The respondents were split equally as to whether the FTC should regulate the practice of physicians and dentists.

SEVENTY-ONE PERCENT OF PHYSICIANS provide free care or reduce their fees for patients who have become unemployed recently and lost their health insurance coverage, the AMA Socioeconomic Monitoring System reported. In a survey, physicians said that 9% of the patients they had seen in the previous month had lost their jobs recently. As a result of providing free or reduced-fee care to the jobless physicians' billings were reduced by an average of 6%. Fifty-five percent of the responding physicians provide free or reduced-fee care for patients who have lost their Medicaid coverage due to program cutbacks. These individuals accounted for a 5% reduction in billings. Community-based "fair share" programs that address the problems of the unemployed and needy have attracted the participation of 10% of all physicians, according to the survey.

SINCE THE AMA House of Delegates established the Physician's Recognition Award in 1968, more than 300,000 certificates have been issued to physicians in every state and medical specialty. In the past year, 36,500 certificates were issued. More than 108,000 valid certificates are in circulation, according to the *PRA Information Booklet*, 1983 edition, which is available from the Dept. of Medical Informatics and Physician Qualifications, AMA Headquarters. The PRA is not required for membership in the AMA. It is accepted, however, by 11 state licensing boards as evidence that a physician has satisfied the board's requirements for reregistration.

THE AMA AND FTC agreed to language in a document that would clarify the agency's jurisdiction over the state-licensed professions. The document is based on a number of proposals before Congress in the last session. The joint AMA-Federal Trade Commission proposal would protect the traditional state licensure of professionals from FTC interference. State laws defining the scope of professional practice would not be within the FTC's jurisdiction. Professional activities taken under state law would also receive protection. The commercial activities of professionals would be subject to FTC scrutiny. The proposal applies to licensed professionals such as physicians, lawyers, dentists, architects, nurses, veterinarians and engineers.

A PROPOSED constitutional amendment authorizing the federal and state governments to restrict or prohibit abortions was opposed by the AMA in comments to a Senate subcommittee. The proposal would overturn the U.S. Supreme Court decision holding that a woman has a constitutional right to an abortion, the AMA said. If the amendment were adopted, "women could potentially be denied a necessary medical procedure," according to the comments. "We are concerned with the possibility of improper governmental interference into medical practice by singling out a medical procedure for banning or restriction," said the AMA.

THE AMA SURVEY revealed that the public supports the involvement of professional organizations in a number of activities affected by FTC regulation. The AMA was judged to be the most effective group in disciplining physicians, followed by licensing boards, consumer groups and local physician groups. The public viewed the FTC as the least effective group in maintaining quality. The survey found strong public support for local medical organizations to review complaints of high fees (86%), set standards for physicians' performance (78%) and education (81%) and develop maximum limits for physicians' fees to help keep down medical costs (78%).

OFFTEN INSEPARABLE: PAIN AND ANXIETY

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See important information on next page.

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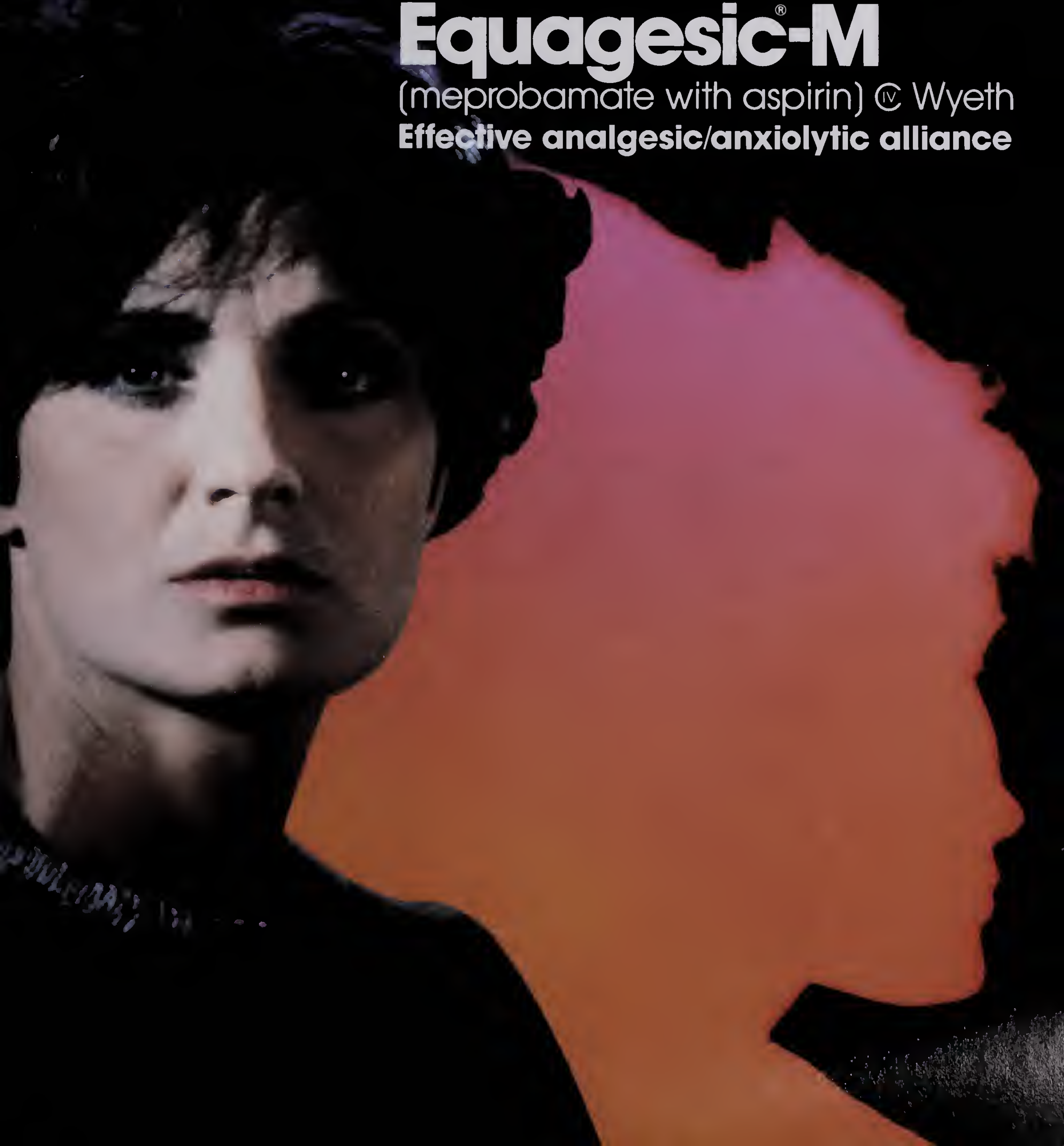

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(BRIEF SUMMARY)

DESCRIPTION: Each tablet contains 200 mg meprobamate and 325 mg aspirin.

INDICATIONS: Adjunct in short-term treatment of pain accompanied by tension and/or anxiety in patients with musculoskeletal disease. Clinical trials demonstrated in these situations relief of pain is somewhat greater than with aspirin alone Effectiveness in long-term use, i e. over 4 months, has not been assessed by systematic clinical studies Physicians should periodically reassess usefulness of drug for individual patients

CONTRAINDICATIONS: ASPIRIN Allergic or idiosyncratic reactions to aspirin or related compounds MEPROBAMATE Acute intermittent porphyria, allergic or idiosyncratic reactions to meprobamate or related compounds, e g carisoprodol, mebutamate, or carbromal.

WARNINGS: ASPIRIN Use salicylates with extreme caution in patients with peptic ulcer, asthma, coagulation abnormalities, hypoprothrombinemia, vitamin K deficiency, or those on anticoagulants In rare instances, aspirin in persons allergic to salicylates may result in life-threatening allergic episodes

MEPROBAMATE DRUG DEPENDENCE Physical and psychological dependence, and abuse have occurred Chronic intoxication from prolonged ingestion of, usually, greater than recommended doses is manifested by ataxia, slurred speech, and vertigo, Therefore, carefully supervise dose and amounts prescribed and avoid prolonged use, especially in alcoholics and others with known propensity for taking excessive quantities of drugs Sudden withdrawal after prolonged and excessive use may precipitate recurrence of preexisting symptoms, e g anxiety, anorexia, or insomnia, or withdrawal reactions, e g , vomiting, ataxia, tremors, muscle twitching, confusional states, hallucinosis, and, rarely, convulsive seizures. Such seizures are more likely in persons with CNS damage or preexistent or latent convulsive disorders Onset of withdrawal symptoms occurs usually within 12 to 48 hours after discontinuation; symptoms usually cease within next 12-to-48-hour period When excessive dosage has continued for weeks or months, reduce dosage gradually over 1 to 2 weeks rather than stop abruptly. Alternatively, a short-acting barbiturate may be substituted, then gradually withdrawn.

POTENTIALLY HAZARDOUS TASKS Warn patients meprobamate may impair mental or physical abilities required for potentially hazardous tasks, e g , driving or operating machinery

ADDITIVE EFFECTS Since CNS-suppressant effects of meprobamate and alcohol or meprobamate and other psychotropic drugs may be additive, exercise caution with patients taking more than one of these agents simultaneously

USAGE IN PREGNANCY AND LACTATION An increased risk of congenital malformations associated with minor tranquilizers (meprobamate, chlordiazepoxide, and diazepam) during first trimester of pregnancy, has been suggested in several studies. Because use of these drugs is rarely a matter of urgency, their use during this period should almost always be avoided. The possibility that a woman of childbearing potential may be pregnant at time of institution of therapy should be considered. Advise patients if they become pregnant during therapy or intend to become pregnant to communicate with their physicians about desirability of discontinuing the drug.

Meprobamate passes the placental barrier. It is present both in umbilical-cord blood at or near maternal plasma levels and in breast milk of lactating mothers at concentrations two to four times that of maternal plasma. When use of meprobamate is contemplated in breastfeeding patients, consider the drug's higher concentrations in breast milk as compared to maternal plasma levels.

USAGE IN CHILDREN Keep preparations with aspirin out of reach of children Equagesic®-M is not recommended for patients 12 years of age and under

PRECAUTIONS: ASPIRIN Salicylates antagonize uricosuric activity of probenecid and sulfinpyrazone Salicylates are reported to enhance hypoglycemic effect of sulfonylurea antidiabetics

MEPROBAMATE. Use lowest effective dose, particularly in elderly and/or debilitated, to preclude over-sedation. Meprobamate is metabolized in the liver and excreted by the kidney, to avoid excess accumulation exercise caution in its use in patients with compromised liver or kidney function Meprobamate occasionally may precipitate seizures in epileptic patients It should be prescribed cautiously and in small quantities to patients with suicidal tendencies

ADVERSE REACTIONS: ASPIRIN May cause epigastric discomfort, nausea, and vomiting Hypersensitivity reactions, including urticaria, angioneurotic edema, purpura, asthma, and anaphylaxis may rarely occur Patients receiving large doses of salicylates may develop tinnitus

MEPROBAMATE. CNS. Drowsiness, ataxia, dizziness, slurred speech, headache, vertigo, weakness, paresthesias, impairment of visual accommodation, euphoria, overstimulation, paradoxical excitement, fast EEG activity

GI Nausea, vomiting, diarrhea

CARDIOVASCULAR Palpitation, tachycardia, various forms of arrhythmia, transient ECG changes, syncope. hypotensive crisis

ALLERGIC OR IDIOSYNCRATIC. Milder reactions are characterized by itchy, urticarial, or erythematous maculopapular rash, generalized or confined to the groin Other reactions include leukopenia, acute nonthrombocytopenic purpura, petechiae, ecchymoses, eosinophilia, peripheral edema, adenopathy, fever, fixed drug eruption with cross-reaction to carisoprodol, and cross-sensitivity between meprobamate/mebutamate and meprobamate/carbromal Rare, more severe hypersensitivity reactions include hyperpyrexia, chills, angioneurotic edema, bronchospasm, oliguria, and anuria Also, anaphylaxis, exfoliative dermatitis, stomatitis, and proctitis Stevens-Johnson syndrome and bullous dermatitis have occurred.

HEMATOLOGIC (SEE ALSO "ALLERGIC OR IDIOSYNCRATIC") Agranulocytosis, aplastic anemia have been reported, although no causal relationship has been established, and thrombocytopenic purpura.

OTHER Exacerbation of porphyric symptoms

DOSAGE AND ADMINISTRATION Usual dose is one or two tablets, 3 to 4 times daily as needed for relief of pain when tension or anxiety is present Not recommended for patients 12 years of age and under

OVERDOSAGE. Treatment is essentially symptomatic and supportive Any drug remaining in the stomach should be removed Induction of vomiting or gastric lavage may be indicated Activated charcoal may reduce absorption of both aspirin and meprobamate Aspirin overdosage produces usual symptoms and signs of salicylate intoxication. Observation and treatment should include management of hyperthermia, specific parenteral electrolyte therapy for ketoacidosis and dehydration, watching for evidence of hemorrhagic manifestations due to hypoprothrombinemia which, if it occurs, usually requires whole-blood transfusions Suicidal attempts with meprobamate have resulted in drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse. Some suicidal attempts have been fatal The following data, reported in the literature and from other sources, are not expected to correlate with each case (considering factors such as individual susceptibility and length of time from ingestion to treatment), but represent usual ranges reported Acute simple overdose (meprobamate alone) Death has been reported with ingestion of as little as 12 gram meprobamate and survival with as much as 40 gram

BLOOD LEVELS:

0 5-2.0 mg percent represents usual blood-level range after therapeutic doses The level may occasionally be as high as 3 0 mg percent

3-10 mg percent usually corresponds to findings of mild-to-moderate symptoms of overdosage, such as stupor or light coma

10-20 mg percent usually corresponds to deeper coma, requiring more intensive treatment. Some fatalities occur.

At levels greater than 20 mg percent, more fatalities than survivals can be expected

Acute combined overdose (meprobamate with other psychotropic drugs or alcohol). Since effects can be additive, history of ingestion of a low dose of meprobamate plus any of these compounds (or of a relatively low blood or tissue level) cannot be used as a prognostic indicator.

In cases of excessive doses, sleep ensues rapidly and blood pressure, pulse, and respiratory rates are reduced to basal levels Any drug remaining in stomach should be removed and symptomatic treatment given Should respiration or blood pressure become compromised, respiratory assistance, CNS stimulants, and pressor agents should be administered cautiously as indicated Diuresis, osmotic (mannitol) diuresis, peritoneal dialysis, and hemodialysis have been used successfully in removing both aspirin and meprobamate Alkalinization of the urine increases excretion of salicylates. Careful monitoring of urinary output is necessary, and caution should be taken to avoid overhydration.

Relapse and death, after initial recovery, have been attributed to incomplete gastric emptying and delayed absorption

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References: 1. Kales A *et al: J Clin Pharmacol 17*:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **3.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **4.** Kales A *et al: JAMA 241*:1692-1695, Apr 20, 1979. **5.** Kales A, Scharf MB, Kales JD: *Science 201*:1039-1041, Sep 15, 1978. **6.** Kales A *et al: Clin Pharmacol Ther 19*:576-583, May 1976. **7.** Kales A, Kales JD: *Pharmacol Physicians 4*:1-6, Sep 1970. **8.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **9.** Dement WC *et al: Behav Med 5*:25-31, Oct 1978. **10.** Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **11.** Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. **12.** Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. **13.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

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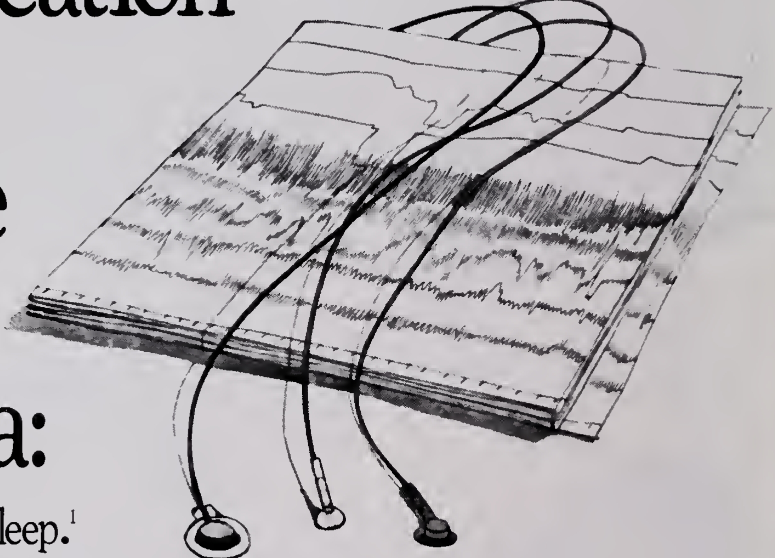

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Missouri Medicine

Vol. 80, No. 7 (ISSN 0026-6620) July, 1983

MDS

Special Report

125th Annual Convention

Editor's Corner

Missouri State Medical Association

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COLLEGE OF PHYSICIANS
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MOMEDICO now offers Missouri physicians their choice of professional liability insurance: either "modified claims-made" coverage or "occurrence" coverage.

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July, 1983

PROGRESS NOTES

missouri state medical association

Child Auto Restraint Bill Becomes Law

With just one day remaining in the Legislative Session, a Conference Committee of state senators and representatives agreed on stronger language for **House Bill 29,** requiring that **all** persons transporting children under four years of age place the child in an approved auto restraint system.

HB 29 had sailed through the House with little trouble. However, the Senate had tacked on amendments expanding the bill from requiring "parents and guardians" to use the restraint to requiring **all** persons to abide by the new law. The fine under the bill was also increased from a maximum of $15 to $50 by the Senate. It was feared that the amendments would make the bill unacceptable to the House.

However, the only change suggested by the Conference Committee was to lower the maximum fine to $25. Sent back to the House floor first, **HB 29** collected a rather surprising 105-54 vote. The Senate then voted 23-11 to adopt the bill.

"MSMA Legislative 'Key Contacts' should be congratulated for their efforts in expressing medicine's support of **HB 29,**" John I. Matthews, M.D., chairman of the MSMA Committee on Legislative Affairs said. "Many groups and individuals gave 'moral support' to the bill, but medicine provided the bill's sponsor and allies with the active participation needed to gain passage."

In reviewing the actions of the 1983 General Assembly, Dr. Matthews stated that perhaps the most important feature of the Session was that "no bills opposed by the MSMA were passed."

As always, the Session ended in a flurry of activity and several bills of interest to medicine were passed in the final hours. Some of these issues are listed below. A full report on actions taken by the Legislature will be mailed to the entire MSMA membership in the near future. The following bills passed both Houses and soon will become law:

HB 51 — Licenses and regulates home health agencies.

HB 127 — A combination of several bills, it includes provisions to mandate insurance coverage for certain services of psychologists, chiropractors and optometrists, adds a small premium tax to Blue Cross/Blue Shield, increases the state's regulatory powers, and licenses HMO's.

HB 825 — A weakened version of a bill to place a moratorium on the construction of additional hospital and nurisng home beds; the effective date was pushed back to September; and the length of the moratorium reduced to 18 months.

SB 44/45 — Rewrites the state's guardianship statutes. Specific information will be provided later.

SB 318/135 — Following adoption last year of the "drunk driving" law, this measure places more penalties in statutes to increase enforcement.

SB 163 — Establishes a Cancer Reporting System in Missouri.

SB 336 — Allows trained technicians to initiate dialysis under certain conditions.

Bohigian Elected To AMA Council

George M. Bohigian, M.D., a St. Louis ophthalmologist, was recently elected to serve a three-year term on the American Medical Association's Council on Scientific Affairs. He was elected to the 11-member Council during the AMA's Annual Meeting June 19-23 in Chicago.

The Council advises on substantial and promising developments in the scientific aspects of medicine and biomedical research which warrant public attention.

An AMA delegate, Dr. Bohigian is past vice president of the Missouri State Medical Association and past president of both the St. Louis Metropolitan Medical Society and the St. Louis Ophthalmology Society.

Dr. Bohigian is now in private practice and is co-director of the Fausek Research Foundation. He has been an associate professor of clinical ophthalmology at Washington University School of Medicine for more than a decade.

Author of a textbook and numerous published scientific articles, Dr. Bohigian is a Fellow of the American College of Surgeons and a Diplomat of the American Board of Ophthalmology.

Physicians Asked to Write to Needy Patients

Increasing numbers of Americans are finding it difficult to obtain necessary health care due to unemployment and reductions in their Medicaid and disability programs.

Last year, the AMA joined with other medical, business and labor groups in a call for physicians, hospitals and concerned groups to develop workable solutions to help resolve these problems. And although the medical profession has taken significant initiatives, much remains to be done.

The AMA is again asking physicians and medical societies to exert further leadership in addressing the problem of health care for the unemployed and the needy, particularly by local medical societies acting as the coordinator for local programs to assist the unemployed.

Recently, the AMA has been exploring with the AFL-CIO additional ways in which physicians and medical societies can assist unemployed patients to receive necessary medical care. Together, they have drafted a letter designed to be used by physicians. Physicians may modify the letter to fit their office letter format and style, and then distribute to their patients.

The purpose of the letter is to make patients aware of the physician's desire to respond to the economic hardship of his unemployed or needy patients through provision of necessary medical care on a free or reduced fee basis or through creation of other appropriate financial arrangements.

SAMPLE LETTER FOR PHYSICIAN'S PATIENTS

To be modified to fit your office letter format and style, then for distribution to your patients.

Dear Patient:

At a time when substantial unemployment, along with reductions in Medicaid and disability programs, continue to make it difficult for increasing numbers of people to obtain necessary health care, I want to assure my patients that such circumstances will not be a barrier to my provision of necessary medical services.

I believe it is important that you continue to receive the medical care you need. Provision of the best medical care possible is, as always, my primary goal in serving my patients.

If you would have difficulty in paying my bills because of unemployment and a loss of health insurance or due to a cutback in Medicaid or disability program, please let me or my staff know. We can make arrangements to provide for necessary care on a free or fee-reduced basis, or make other financial arrangements.

Most importantly, do not hesitate to seek my services because you are having financial problems beyond your control. Please let me or my office staff know if you would like to discuss my policy on this further.

Sincerely,

______________________________, M.D.

Rubella Shots Required

Rubella immunization is now required for all Missouri school children, regardless of age or sex. This revision of the school regulations took effect on May 12, 1983. Previously, females in grades 7-12 were automatically exempt from rubella immunization. The rule was updated because of recent changes in rubella transmission patterns and because of new evidence concerning the safety of rubella vaccine.

Aids Must Be Reported

The Missouri Division of Health filed with the Secretary of State on June 10 an Emergency Rule on Acquired Immune Deficiency Syndrome (AIDS). The emergency rule adds AIDS to the list of diseases that must be reported to the Division of Health or to the local health authority in writing within seven days of suspected or established diagnosis. The emergency rule became effective June 20.

Dr. Fisher Confirmed to Board for the Healing Arts

Linda A. Fisher, M.D. was recently confimed by the Missouri Senate to serve a three-year term on the State Board of Registration for the Healing Arts. She is pictured above with state Sen. John Bass during the Senate confirmation hearing.

Dr. Fisher is director of ambulatory care at St. Luke's Hospital in St. Louis. She received a bachelors degree from Rutgers University and a M.D. from Harvard Medical School. She is currently serving as president of the Women's Association of the American Medical Association, vice president of the Greater St. Louis Health Systems Agency, and a counselor for the St. Louis Metropolitan Medical Society.

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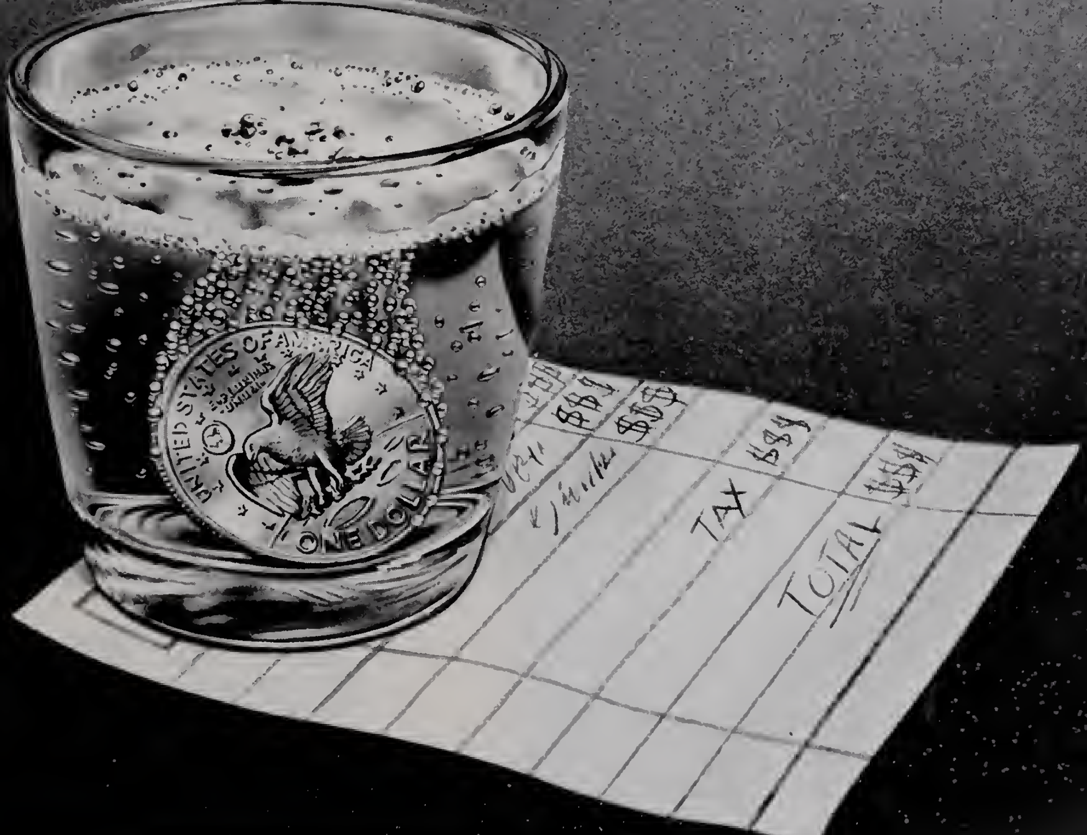

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Editor's Corner

EDITORIAL

We routinely solicit the opinion of a pediatric dysmorphologist, since he has considerable expertise . . .

This statement in an AMA archives publication this spring shook the complacency of the editor. We just might have had the uninformed stupidity to seek the opinion of a common, garden variety pediatrician in the case under discussion had we been involved. Making the decision as to which specialist to consult for which medical problem is, indeed, at times becoming difficult.

A phone call to an ophthalmologist about a lachrymal sac ailment can backfire — the super-trained physician so contacted may wheel and deal only in intra-ocular diseases. Thereby, a phone call has been wasted, an ego has been weakened, and the one called has had to explain the present day facts as to how his area of medicine is now sub-structured.

The internist who really only wants to be involved with diabetics sometimes sounds put upon if he's asked to take over a cardiac patient. He is matched by the surgeon who is now limited to colon-rectal diseases, the psychiatrist who only does psychoanalysis and the orthopedist who cares only for total joint procedures. From adolescent medicine to hand surgery to gynecological oncology the sub-specialization goes on. The old saw about a specialist knowing more and more about less and less is becoming truer and truer.

At the present time, there are about 60,000 residents in specialty training in the United States and, for sure, a good number are looking for a unique corner of the practice of medicine in which to feel competent and be successful — merely being a physician just isn't sufficient any more. With the further division of the 23 recognized medical specialties, there are now at least 80 recognized varieties of sub-specialists catering to all sorts of intricate medical needs. There are many overlapping categories — the pathologists have used the microtome to slice up their field of endeavor 17 different ways, which puts the eight varieties of radiologists and the nine breeds of internists to shame.

The local and state medical societies by their meetings and publications would seem to have an important role in keeping us educated concerning this continuing fragmentation of medical practice and letting us know which super-specialist can offer which services. The physiatrists are coming on their own, forensic pathologists now make like Quincy, and vascular surgeons are looking for smaller vessels to microanastomose. Who knows? Next week, we may find ourselves in desperate need of a pediatric dysmorphologist.

JORDAN W. BURKEY, M.D.

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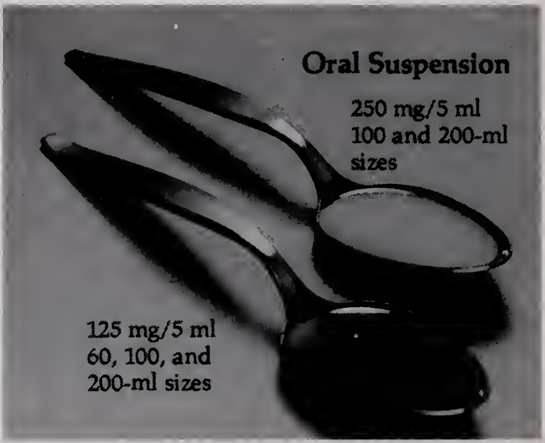

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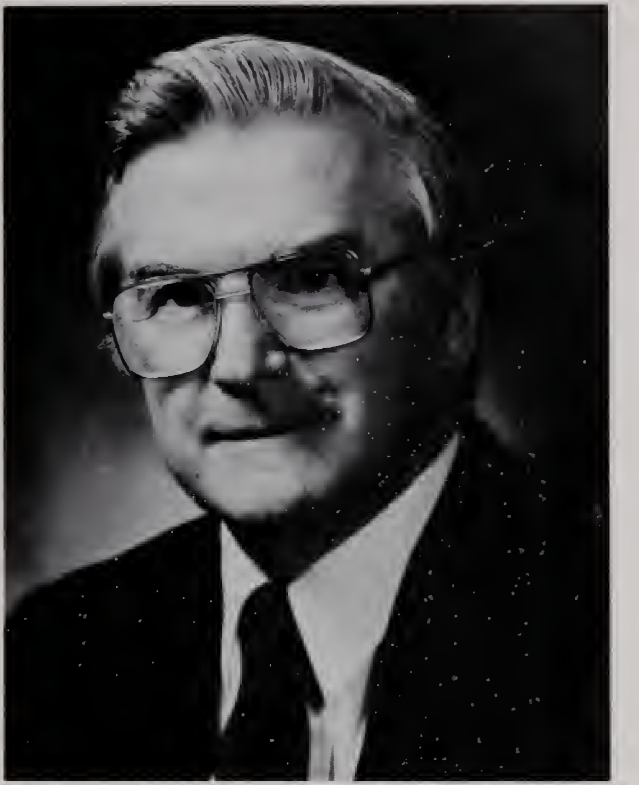
Remarks of John I. Matthews, M.D., President



Mr. Speaker, Dr. Rogers, Members and Guests:

Thank you for the honor and privilege of addressing this House of Delegates as your president. This is one of the most outstanding state medical associations in the nation and we all can take pride in being members of it. I will review with you briefly some of the accomplishments of the year and then make a few comments on problem areas as I see them.

The Planning Seminar held in two one-and-one-half day sessions has been an outstanding success. It has identified areas of strength and weakness in the organization through an exhaustive process of critical self-examination. From it have evolved several of the resolutions sponsored by the Council that are present in your Handbook. Future resolutions and guidance should be forthcoming as this material is reviewed by the Planning Committee annually. In Resolution #9, the Council endorses the concept of a planning seminar every five years.

It is well known to all of you that the health care cost of the nation is now about 10% of the gross national product. This has precipitated us into a medical economic revolution. The people want and demand quality care. Government at all levels, businesses and insurance carriers seek a cost-control solution. Physicians and hospitals are in the middle and you know what is going to happen. All kinds of payment plans are being tried. They range from HMOs to IPAs to DRGs to ad infinitum.

The MSMA is responding to the crises. As called for by the House of Delegates last year, a state committee to assist in the formation of coalitions for health care has been developed. It is chaired by Dr. T. J. Cooper of St. Louis. Since each community has its own mix of industry, labor and business, the local approach appears to be the most likely to be successful. Coalitions in St. Louis and Springfield continue their efforts. We now have the mechanism to supply expertise to other county societies wishing to do likewise.

MOMEDICO, under the adroit generalship of Dr. Richard Bradley, continues to grow. Since its inception, medical liability insurance has been offered to members of the MSMA at the lowest rate possible. Resolution #3 in your Handbook calls for the Association to become manager and administrator of MOMEDICO. I urge your approval of this resolution.

While discussing cost effectiveness, we should mention that the House Public Health Committee of the Missouri State Legislature has formed a subcommittee to study ways in which potential legislation can reduce health care costs. We are fortunate that they have invited your association President to be a member of this study group.

At the last annual convention, this House requested that HMOs, IPAs, satellite clinics and other new forms of practice be monitored by the MSMA. An excellent and extensive report on this issue has been prepared for the Medical Economics Commission by Douglas Viehland of our staff. Each local society has been sent a copy of this study and members may receive one of their own by requesting it from the state office. This is an ongoing project to identify and describe these entities. We have identified eight HMOs, 18 satellite clinics sponsored by 11 different hospitals, no preferred provider organizations and nine freestanding emergency centers.

The MSMA Auxiliary has been busy with many projects beneficial to Medicine. Of these, their legislative support of child restraints for automobiles appears to be near fruition in the current Missouri legislative session. We congratulate them on their efforts. In my opinion, the practice of making an officer of the Auxiliary an ex officio member of our Legislative Committee should become standard operating procedure for the Association.

Now for a few problems—

Membership in the MSMA gained steadily from 1972 to 1982. However, a searching and significant study by C. C. Swarens of our staff shows that since the direct membership option has been instituted by the AMA, full dues-paying active membership in the MSMA has dropped. Physicians and students choosing to join the AMA through the MSMA — thus joining all levels of organized medicine — dropped by 349. As of last year, the total number of physicians and students belonging to the AMA but not the MSMA or to their local medical society is 1,019. We still feel that the best approach to membership is through the federation, but it appears that the AMA is not stressing this concept in its direct membership communications. Two of our Councilor Districts may lose a Councilor if there is further decline in their membership. Resolution #7 in your Handbook deals with this problem and merits your careful attention.

It was Dr. William Osler who emphasized that the master word in Medicine is WORK. This concept has become part of our heritage. Yes, physicians work hard to achieve excellence in research and practice skills. They work conscientiously on hospital committees to promote high standards for patient care. But, when it comes to their professional association, what happens? It can be said that the average physician spends less than one half of 1% of professional time working for the organization that promotes his profession and attempts to provide protection for his patients. Many of the problems we face demand work — not a lot of work by a few, but rather some work by many physicians. More work spent on organizational activity would pay rich dividends for the profession.

Political activity is another area in which a little work by many physicians would benefit the profession. Our polls taken at registration at annual conventions the last several years indicate that the vast majority of the physicians do not know the name of their state representative or state senator and most do not know the name of their representative in the United States Congress. This deficit in political identification is fairly general, but it is more prevalent among those from metropolitan areas. Resolution #6 addresses this problem.

Medicaid is yet another area in which a little work by many physicians would help the profession. Resolution #4 concerns this problem. I strongly recommend its approval. Far too many Missouri physicians fail to take Medicaid patients. All too frequently, physicians receive advice from business managers who counsel them against effort in this area because of potential loss of revenue. But a physician must always be true to the highest standard of the profession. What percentage of your time, Doctor, is devoted to these needy patients?

The Missouri State Medical Foundation provides educational loans to Missouri residents who have completed their first year of medical school. I'd like to take this opportunity to remind you that the Foundation serves as a fitting memorial fund for your medical colleagues as well as for your own bequests.

We are fortunate in the quality of our staff — it is efficient and hardworking throughout. I want to thank them for their dedication.

In conclusion, this is the 125th time that Missouri physicians have assembled to advance medical care in the state. Dr. Bill Bradshaw, along with the members of his Program Committee, have prepared an excellent scientific program. There are multiple areas of controversy in the House of Delegates. In short, we have the ingredients for one of our finest sessions.

Remarks of Ronald A. Youmans, M.D., President-Elect

Ladies and Gentlemen:

As the Missouri State Medical Association's president-elect, I appreciate the honor and challenge of addressing this House of Delegates' 125th Annual Convention. This organization speaks for the physicians of Missouri as does no other group. The Missouri State Medical Association has a great responsibility to provide health care needs to the citizens of our state. Your component medical society, the Missouri State Medical Association and the American Medical Association constitute a single, three-tiered medical organization. Your involvement at each level is vital. Your MSMA Council has plans to make membership even more advantageous.

Most of the concerns of your Missouri State Medical Association are problems confronting physicians throughout our state; some are regional. There is a need for better communication within the metropolitan communities. Metropolitan areas, such as St. Louis and Kansas City, are at a considerable disadvantage in that they rarely hold meetings with the practicing physicians. Rather, they have developed a system of Board of Directors that meets periodically.

Without a doubt, we are in a time of change. Physicians have been quick to recognize the advantages of third-party payors and the disadvantages are becoming progressively more apparent. There was a time when appropriate charges could be made in terms of the hourly earnings of the particular patient, allowing a variation in charges for comparable service. There was a time when there was a means of providing service for the indigent with little or no charge. But, with the advent of health care insurance, these concepts have changed dramatically. Thirty years ago, to receive monies from patients not seen was absolutely unthinkable and improper. Today, it is the basic premise for compensation through prepayment group health care providers, such as HMO's. Thirty years ago, a group or institutional practice capturing several nursing homes or small hospitals within the community under a single corporation would have been regarded as a monopoly. Today, the courts appear to smile on this as properly enterprising.

The sensitive issue of capping medical expenditures has always been present. Whether buying farm implements or visiting his physician, your grandfather probably was careful not to contract for any services without cash-in-hand. Now, we find the progressing implication that third-party payors will simultaneously be requiring several functions of the physician: first, to provide adequate medical care; second, to function as the *insuring agent*, running the risk of personal loss if he should underestimate the severity or duration of an illness and facing the probability that compensation will be limited to some system of "funds available." When this system has been tried in other countries, the inevitable problems that develop demonstrate that though access of medicine may become more uniform, the trend is toward mediocracy, with longer waiting, rather than excellence and progress in developing new technologies.

Government, like third parties, is a major concern today. The AMA serves an important function by providing vital information to your Congressmen. Your support through the political action committees is necessary. Since they work on different levels of legislation, I would encourage all of you to support both the Missouri Medical Political Action Committee and the American Medical Political Action Committee. Sustaining members of PAC can be readily identified by their special lapel pin. Dr. John Martin has done very valuable work for several years by heading the Missouri Medical Political Action Committee. Dr. Walter German has done a superb job developing *Key Man Contact* programs. To let your voice be heard effectively, it is important to be aware of local activities and to know your representatives in both the Missouri General Assembly and in the Congress.

A third committee with expertise in negotiations, particularly in socio-economic relations, should be reactivated. This will be discussed with your Council.

In November, 1982, the Missouri State Medical Association held its second Long Range Planning Meeting. Not many new ideas evolved, but we did establish goals. Several of these new goals have resolutions that this body will consider.

(1) To begin with, the area of primary concern is providing health care for those who do not have ready access to available health care. We would encourage our physicians to accept Medicaid patients more readily. This group is obviously increasing with an increase in unemployment and a loss of third-party health care insurance. Increasingly, politicians state that health care is a "right," such as utilities like water and electricity. It seems they should include food and shoes and transportation as well. Still physicians should be reminded that practicing medicine is not a right of the physician, but a privilege allowed by society and legislated through the state of Missouri.

(2) We are continually reminded that health care costs are escalating. I would suggest that physicians' charges have not been the major contributing factor to the rise in health care costs but, rather, laboratory and technical advances, generally provided through the hospital, have caused these rises in cost. Sometimes we forget that 30 years ago, persons stayed home and died of pneumonia rather than having access to the miraculous spectrum of antibiotics now available. Technical advances through laboratory work, as well as x-ray imaging and CT scanning, simply were not available. Techniques of arteriography, coronary bypass surgery and even hip replacement were still unthought of. Intensive care units, trachial entubation, blood gases and good respirator care did not exist. Assuredly, these exceedingly worthwhile developments are expensive.

(3) A most difficult new ethical problem is evolving in terms of quality of life, and survival, at both ends of the human spectrum. The advances in neonatology have been miraculous in their technical aspects. Too frequently, however, the result is expensive and does not produce capable independent citizens. Similar ethical problems evolve with catastrophic illnesses, such as cancer or stroke. Today, an increasing number of such decisions are being made by parties other than the patient, the family or the physician. In retrospect, the "third-party payer" then objects to the high cost that hasn't yielded an intelligent, oriented and capable individual. I would hope that the primary decisions will continue to lie with the patient, his family and his physician.

(4) Another activity discussed during our planning seminar was our student loan program. The Missouri State Medical Foundation is one of the more active groups granting loans to medical students. A resolution will be considered to continue this needed program. The loan portion of the AMA-Education Research Fund likewise merits your attention, especially if you would like to assist a particular medical school.

(5) The Committee on the Impaired Physician has become a very vital group in the past several years and has now proposed major plans for expansion with a larger budget to include a full-time medical director, secretarial assistance, increased travel allowance and educational materials. We solicit your interest and ideas. An assessment on members may be needed to properly implement the program.

(6) The physician shortage reported several years ago no longer exists. The number of physicians will continue to increase for several years, but distribution will be a problem for an indefi-

nite time. Also, we will see continued efforts by limited-licensed medical professionals and technicians to expand their scope of practice into areas formerly reserved as the practice of medicine.

(7) Organizing committees for the coming year has been an interesting challenge. It makes one aware of the number of physicians who are already contributing many hours per year to their Medical Association. It also emphasizes the ongoing nature of the problems being discussed by these committees. Few of them have short and final resolution. However, one committee probably should be removed from the list of functioning committees. The Committee on Voluntary Health Agencies has provided a rather concise listing of such facilities throughout the state. Obviously, the list should be updated annually. The physicians of the Missouri State Medical Association are encouraged to cooperate and assist with these voluntary agencies at every opportunity. The Voluntary Health Agencies Committee has done a good job, but it is time that we allow the Committee to be dissolved because its task has been completed.

Speaking generally, we are all aware there is no substitute for the patient's participation in his health care, including a moderate lifestyle, a nutritious diet without excessive calories, exercising to maintain physiologic toning, enough rest each night and professional advice when illness does occur. Do you know a physician who does these things well?

Excessive weight and excessive use of toxins as tobacco, alcohol and street drugs, have been termed "social problems" and are partially responsible for major expenditures in health care. There are those who would include excessive amounts of refined sugars, additives and salt. If such is the case, then public *education* becomes a major obligation and opportunity for every physician. I firmly believe that health education should be a primary goal for your local medical society and the Missouri State Medical Association. With the tremendous amount of assistance available to us from our auxiliaries on both the local and state level, health education can be a realistic goal for our professional organizations.

We are under continual pressure from politicians to "compete" and advertise as a means of reducing health care costs. I suspect greater participation by the patient could be a much more useful tool. Cost participation by the patient would assist both the physician and the patient in resolving health care demands. It has not been my experience that if I really feel a procedure should be done that my patient finds reasons not to follow the advice. Obviously, there are areas that should be discussed and then, perhaps, considered at future times.

James Pagett, who began private practice in medicine in 1851, stated that "a full measure of good public repute is certain to come without being sought to all who deserve it whether for their knowledge or for their carefulness, laborious attention, gentleness or other good qualities; but reputation, measured only or chiefly by money, may be obtained by the most ignorant by self-assertion and self-advertisement, or mere impudence."

In the challenging year ahead, I would remind you that the informed and concerned patient is the primary person to receive proper health care from his physician. A concerned and informed membership for the Missouri State Medical Association is our greatest asset in making that best health care available.

Report of Mrs. Sam L. Gaston, President of the MSMA Auxiliary

Mr. Speaker, Dr. Matthews, Dr. Rogers, Delegates and Guests:

It is a pleasure for me to bring to you this report of the Missouri State Medical Association Auxiliary.

One year ago, I accepted the honor and responsibility of being president of the MSMA Auxiliary. I developed my theme: "Take Time to Serve Others — It Is Your Gift to Life." I am proud to report that the Auxiliary has added yet another year of accomplishments to its impressive record of serving others, improving the quality of life in our communities, and extending the volunteer arm of the medical profession.

As I have visited our organized county auxiliaries this year, I have marveled at their creative ideas and successful projects. This is, in essence, their report. They are working with projects on child abuse prevention, child auto restraint seats, CPR training, health education in the schools, screening programs, "Kids on the Block" puppet show, hospice and blood donor programs, to mention only a few. They also raise funds for local health-related sholarships, the Missouri State Medical Foundation and our only national fund-raising project, the AMA-Education and Research Foundation. Both foundation funds show a substantial increase this year. To date, the Auxiliary has raised $10,558 for the AMA-ERF. The MSMF total now stands at $7,555.75. We have high expectations that new records will be set tonight for both funds at the Fifth Annual MSMF/AMA-ERF Benefit Auction. It will begin with hors d'oeuvres at 6:30, followed by a chuck-wagon barbecue buffet dinner at 7 PM with the auction getting underway by 8 PM. Please join us for this evening of fun, food and fellowship in support of these worthy causes.

My primary interest has centered on children and youth, with a focus on the problems of drug and alcohol abuse and emphasis on a preventive approach through education and parent involvement. My interest was supported by your president and his Ad Hoc Committee on Teenage Drug Abuse. Feedback on a survey of our membership indicated that alcohol and drug abuse is believed to be the primary problem concerning children and youth and our communities.

Parental involvement in prevention was the subject of our Fall Conference seminar in Springfield. Our featured speaker was Mary Jacobson of Omaha, Neb., president of the National Federation of Parents for Drug Free Youth and Cofounder of PRIDE (Parent Resource Information and Drug Education) in Omaha. Mrs. Jacobson generated much interest, and several projects are now in the process of development.

Our Family Life and Health chairman has emphasized the importance of building a healthy home environment as insulation against the unhealthy pressures of our society. May I add, at this point, how delighted we are that the 1983 "Missouri Mother of the Year" is Mrs. Robert Donnell of Crystal City, an active auxiliary member in Jefferson County. We congratulate her on this honor.

Membership is always a priority. My goal this year was a 10% increase and formation of new auxiliaries. We have 22 organized county auxiliaries and are in the process of organizing Tri-Lakes Auxiliary at Branson. Hopefully, there will be another. We have 93 new members. Our total now stands at 1,309. This represents approximately 27% of the MSMA active membership. We hope to reach our goal by May 15 and win the challenge that Kansas issued to us last fall for the greatest numerical increase. So, please, doctor, in the interest of Pride and Prejudice, will you make sure your spouse belongs to the Auxiliary?

We have given special attention to reaching the resident physicians' and medical students' spouses. With recent changes in the AMA Auxiliary Bylaws, resident physicians' spouses now have the option of full membership at $15 yearly dues or reduced membership at $5 dues. The latter is available to medical students' spouses. This year the Missouri State Medical Association Auxiliary cooperated with the Illinois State Medical Society Auxiliary in sponsoring a workshop in St. Louis featuring topics of special interest to the young physician and spouse and presenting the Auxiliary message and membership privileges.

Since the second half of an AMA Auxiliary dues increase of $8 took effect July 1, 1982, President-Elect Jackie Sanders and I emphasized the benefits and privileges of membership when we visited the county auxiliaries. We stressed the federation concept of "County, State and National" growing together with a membership of more than 80,000, making us one of the nation's largest volunteer organizations. We explained a new service available to members who wish to document their volunteer time and training through the Professional Skills Development Program for employment certification.

The newest service is the People Bank that will be operational by June, 1983. It makes available the special skills and expertise of our members in much the same way as the AMA Project Bank gives us access to more than 900 health-related projects with "how-to" instructions. This year's emphasis is on total life fitness — physical, mental and emotional, symbolized in my theme quotation and "Beatitudes of Time."

Our members are involved in the legislative process. We are very proud that one of our members, Mary Kasten (Mrs. Melvin) of Cape Girardeau, was elected to the Missouri House of Representatives last November. We look forward to hearing from her at the Public Affairs Breakfast Saturday morning. Thirteen county auxiliaries were represented at our "Day at the Legislature" in Jefferson City. I have been privileged to serve on your MSMA Legislative Committee this year and feel that our mutual interests can best be served through such committee representation. We believe that auxilians can and do make a difference.

In order to plan effectively for the future and in response to a request from the MSMA Council, the Executive Committee of the MSMA Auxiliary held at Long-Range Planning meeting in Jefferson City on February 21. We assessed our strengths and our weaknesses, examined our purpose, and outlined goals and recommendations for immediate and long-range action. These recommendations will be presented to our House of Delegates at this convention for approval. We offer to your our support and cooperation as we work together to improve the quality of life in our communities and enhance the public image of the medical profession.

The Auxiliary gratefully acknowledges the generous support of the MSMA. We thank you for adding computerized address labels to the printing and mailing of our quarterly publication, the *Missouri Auxiligram*, and for providing funds for our special seminars tomorrow afternoon and I extend to each of you a very special invitation to attend any portion that your time will permit. I especially want to thank you for the services of Miss Jean Duensing as our Auxiliary liaison to the MSMA and I am deeply grateful for the excellent cooperation and support of your president, the Council, Mr. Royal O. Cooper and the entire staff in Jefferson City. They have graciously responded to my needs and requests.

I have had a strong and supportive Board with whom to work. This has all added up to a memorable and rewarding year for me and, I believe, a most productive year for the Auxiliary.

On behalf of the MSMA Auxiliary, I wish you a successful and productive 125th Annual Convention.

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Ronald A. Youmans, M.D.
MSMA President-Elect

1983
Annual Convention

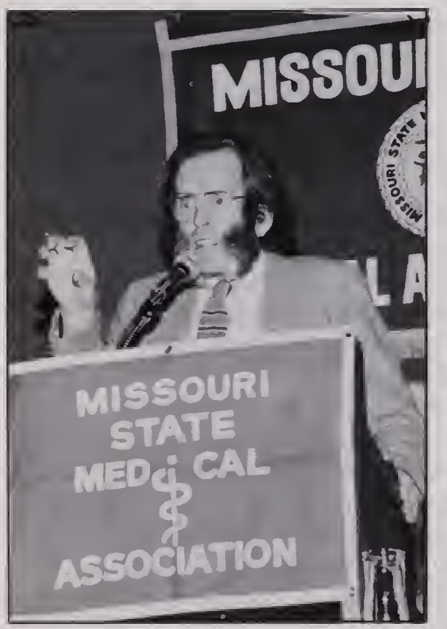
Distinguished guest speakers and the MSMA and Auxiliary Officers always add an important dimension to every Annual Convention. Dr. Youmans, Dr. Matthews and Mrs. Gaston each addressed the Opening Session of the 1983 House of Delegates. The First Session of the Convention was highlighted by remarks from Dr. Spence Meighan and Dr. Harrison Rogers.

Marriotts
TAN-TAR-A
Resort

John I. Matthews, M.D.
MSMA President

MEDICAL ASSOCIATION
Dr Buchanan
Dr Meyer
Dr Matthews
Dr Rogers
Dr Youmans
Dr Stokes
Mr Cooper

Opening Session,
MSMA House of Delegates


MISSOURI
MISSOURI
STATE
MEDICAL
ASSOCIATION

S. Spence Meighan, M.D.
Portland, Oregon
President,
Spence Meighan Associates

Marriotts
TAN-TAR-A
Resort

Mrs. Sam L. Gaston
Joplin
President,
MSMA Auxiliary

SOURI
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Harrison L. Rogers, Jr., M.D.
Atlanta, Georgia
Speaker,
AMA House of Delegates

1983-84 Officers, AMA Delegates and Councilors Elected

At each Annual Convention, the House of Delegates elects its officers and AMA Delegates, Alternate Delegates, Councilors and Vice Councilors. The MSMA Council elects the Secretary and Treasurer of the Association. Those elected this year, but not pictured include the following: Vice-President John H. Walterscheid, Hannibal; Vice-President Virgil E. Jeans, Joplin; Secretary Berry Ivy, Springfield; Treasurer Jay Meyer; AMA Alternate Delegates Vernon Balster, St. Louis and Marvin A. Singleton, Joplin; Councilors T. J. Cooper, Richard H. Fallon and Carol F. Williams, Third District; Councilor William R. Richardson, Fourth District.

President-Elect James M. Stokes (Left) and President Ronald A. Youmans.

Vice-Chairman of the Council H. Peter Ekern (Left) and Chairman of the Council Walter A. German.

(Left to Right) Vice-President Robert C. Fairchild, Shawnee Mission, KS; Speaker of the House of Delegates Barbara Buchanan, Kansas City; and Vice-Speaker of the House of Delegates Arlen D. Winsky, Springfield.

(Left to Right) AMA Alternate Delegate Larry G. Piepergerdes, Kansas City; AMA Delegate Richard P. Bowles, Liberty; and AMA Alternate Delegate Robert R. MacDonald, Jr., St. Louis.

(Back Row — Left to Right) Councilors Donald McIntosh and Larry G. Piepergerdes, Seventh District; Councilor A. J. Campbell, Sixth District; Councilor Robert V. Tompson, Second District. (Front Row — Left to Right) Councilor Robert R. MacDonald, Third District; Council Chairman Walter A. German, Eighth District; Councilor George H. Ladyman, Tenth District; and Student Councilor Tom Reardon.

(Back Row — Left to Right) Vice-Councilor David Wilkinson, Third District; Vice-Councilor Francis M. Corry, Eighth District; Vice-Councilor Paul H. Rother, Fourth District; Vice-Councilor Carl R. Kruse, Second District. (Front Row — Left to Right) Vice-Councilor Jerry Meyer, Sixth District; AMA Delegate and Vice-Councilor Melvin C. Kasten, Tenth District; Student Vice-Councilor Mary Colette Schmidt; and Vice-Councilor Dorothy D. Reister, Seventh District.

Annual Banquet
in honor of MSMA Past-Presidents

The annual banquet on Saturday of the Annual Convention is always an exciting event. The new and retiring MSMA presidents and the past-presidents in attendance are honored. Members who have completed 50 years in the practice of medicine also receive special recognition. The banquet provides that special opportunity for members and guests to relax, enjoy a fine dinner, visit with old and new friends and dance to the music of a "big band."

Below, Dr. Matthews receives a special plaque of appreciation from President Youmans on behalf of the MSMA.

MISSOURI STATE MEDICAL ASSOCIATION
M L ASSO ON

MSMA Members Receive Special Recognition

Dr. Raymond A. Ritter, Sr., Cape Girardeau, is escorted by Drs. Melvin Kasten (left) and Charles McGinty to the podium to receive the Award for Citizenship and Community Service.

Dr. Stanley S. Peterson, Springfield, received a special Award of Recognition from Dr. Matthews for his efforts and accomplishments in all levels of medicine and his outstanding leadership in medical economics.

MSMA Members Receive 50-Year Pins

TAN-TAR-A
Resort

It was an unusual event when two brothers were recognized in the same year. Dr. Douglas G. Kelling, Overland Park, Kan. *(center)* and Dr. Jordan A. Kelling, Waverly *(right)* received their 50-year Pins from President John I. Matthews for completing 50 years in the practice of medicine.

Members of the Missouri State Medical Association who have completed 50 years in the practice of medicine are honored at the Presidents' Banquet each year.

Ten members who attained this distinguished accomplishment in 1983 are pictured here at the time they received their 50-Year Pins and congratulations from President John I. Matthews on behalf of the MSMA.

Members who received their 50-Year Pins but did not attend the Banquet are Drs. Joseph E. Allen and Marvin T. Haw, *Columbia;* Eugene L. Bales, *Carrollton;* Wallace D. English, *Cardwell;* Melvin C. Bowman and Leo T. Taylor, *Neosho;* Robert L. Cooper, *Warrensburg;* Dillard M. Eubank, *Raymore;* Harry L. Greene, *Hannibal;* Paul A. Knepper, *St. Joseph;* Ernest L. Tarrasch, *Springfield;* Maxwell G. Berry and Philip H. Halperin, *Kansas City;* James W. Bagby, William T. Bryan, Edwin J. Casey, Robert J. Farrell, Max S. Franklin, Earl S. Hallinger, Carl G. Harford, Joseph C. Jaudon, Harold L. Joslyn, Joseph B. Kendis, Maurice B. Roche, Theodore E. Sanders, Hyman R. Senturia, Herbert M. Smit, Clement J. Sullivan and Frank G. Zingale, *St. Louis;* Romney M. Day, *McAllen, Tex.;* Morris A. Mueller, *San Antonio, Tex.;* Jonathan B. Peebles, *Buchanan, Tenn.;* Reber M. Van Matre, *Washington, D.C.;* and George J. Wulff, *Tavernier, Fla.*

Joseph L. Cope, M.D.
Lexington

Roy W. Pearse, M.D.
Forsythe

Morris G. Harless, M.D.
Galena

Richard B. Fulks, M.D.
California

Earl E. Feind, M.D.
Rolla

Joseph A. Conrad, M.D.
Chillicothe

Joseph W. Gardner, M.D.
Kimberling City

W. R. Smith, M.D.
Carthage

The MSMA Auxiliary

The annual convention of the MSMA Auxiliary is always held concurrently with the MSMA Annual Convention. Special activities include the MSMF/AMA-ERF Annual Benefit Auction, Public Affairs Breakfast, Friday luncheon honoring the MSMA presidents and Advisory Council, Installation Luncheon and a reception honoring the retiring and newly-installed Auxiliary presidents.

Newly elected and installed 1983-1984 Auxiliary officers at the annual installation luncheon include *(front row, left to right)* Mrs. Stephen Vilmer (Gayle), Legislation Chairman; Mrs. Richard Bowles (Polly), President-Elect; Mrs. Donald Sanders (Jackie), President; Mrs. John Mitchell (Sandra), Third Vice-President; and Mrs. W. C. Dandridge, Jr. (Cheryl), Fourth Vice-President. *(Second row)* Mrs. Gary Dyer (Eileen), Recording Secretary; Mrs. Robert Thomas (Ginny), Auditor; Mrs. James T. Shaw (Kristen), Treasurer; Mrs. Ray Lyle (Jean), Fifth District Director; Mrs. Ludwig O. Muench (Virginia), Fourth District Director; and Mrs. Ramon R. DyRagos (Lydia), First District Director.

Retiring President Lillian Gaston presented the official President's Pin to Jackie Sanders, who then presented the Past-President's pin to Lillian in appreciation of her outstanding leadership.

This is the first year that the MSMA and Auxiliary honored their presidents-elect at a joint reception. Dr. and Mrs. Youmans are greeted by a guest while Dr. Sanders and his wife, Jackie, President-Elect of the Auxiliary, look on.

The Auxiliary raised an impressive $10,000 at the MSMF/AMA-ERF Benefit Auction. The auction was expanded this year to include a buffet dinner.

Marriotts
TAN-TAR-
Resort

State Senator Harriet Woods, University City, was one of the featured speakers at the Auxiliary's Public Affairs Breakfast. MSMAA member Mrs. Melvin C. Kasten, state representative from Cape Girardeau, also addressed the gathering.

125th Annual Convention

MISSOURI STATE MEDICAL ASSOCIATION

House of Delegates

Tan-Tar-A Resort — Osage Beach
March 17-20, 1983

This report of the 1983 MSMA Annual Convention held at Tan-Tar-A Resort in Osage Beach is designed to provide each member with a concise but complete summary of the meeting and the actions taken by the House of Delegates. The minutes of this session are available to members of the MSMA at the Headquarters Office in Jefferson City.

FIRST SESSION

The First Session of the House was called to order at 10:30 AM on March 17, 1983 in the Windgate Center with Speaker Jay Meyer, M.D., presiding. The following officers and delegates were present during the 125th Annual Convention.

OFFICERS

President	John I. Matthews, Jefferson City
President-Elect	Ronald A. Youmans, Kansas City
Vice-President	Byron E. Watts, Jefferson City
Vice-President	Vernon H. Balster, St. Louis
Vice-President	O. A. Griffin, Buffalo
Secretary	B. A. Moranville, Columbia
Treasurer	Carol F. Williams, St. Louis
Speaker of the House	Jay Meyer, St. Louis
Vice-Speaker of the House	Barbara Buchanan, Kansas City
Immediate Past-President	E. T. Hansbrough, Poplar Bluff

COUNCILORS

1st District	Richard C. Hedges, North Kansas City
2nd District	Patricio Avila, Hannibal
3rd District	Thomas J. Cooper, St. Louis
3rd District	Richard H. Fallon, St. Louis
3rd District	James M. Stokes, Chesterfield
3rd District	Robert R. MacDonald, Jr., St. Louis
3rd District	J. Otto Lottes, St. Louis
3rd District	Theodore L. Paletta, St. Louis
3rd District	Frederick D. Peterson, St. Louis
4th District	William R. Richardson, Union
5th District	H. Peter Ekern, Mexico
5th District	Alan L. Braun, Jefferson City
6th District	A. J. Campbell, Sedalia
7th District	Donald E. McIntosh, Kansas City
7th District	Larry G. Piepergerdes, Kansas City
7th District	James P. Hopkins, Kansas City
7th District	Milton B. Ozar, Kansas City
8th District	Walter A. German, Springfield
8th District	Marvin A. Singleton, Joplin
9th District	Jack Wiles, West Plains
10th District	George H. Ladyman, Poplar Bluff
Student Councilor	Tim Harwood, Columbia

VICE-COUNCILORS

1st District	Gary A. Dyer, St. Joseph
2nd District	Robert V. Tompson, Moberly
4th District	Paul H. Rother, St. Charles
5th District	Kenneth L. Rall, Columbia
6th District	Jerry Meyer, Concordia
7th District	Robert Slickman, Kansas City
8th District	Francis M. Corry, Springfield
10th District	Melvin C. Kasten, Cape Girardeau
Student Vice-Councilor	Tom Reardon, Kansas City

DELEGATES

First District

Andrew	Donald Frey, Savannah
Buchanan	Gary A. Dyer, St. Joseph
Buchanan	Jose Jimenez, St. Joseph
Buchanan	D. E. Sklenar, St. Joseph
Buchanan	Thomas M. Sodeman, St. Joseph
Clay-Platte	Richard P. Bowles, Liberty
Clay-Platte	R. DyRagos, Kansas City
Clay-Platte	Donald A. Fakhoury, Kansas City
Clay-Platte	Joseph G. Kelly, Liberty
Clay-Platte	Donald E. Kuenzi, Kansas City
Clay-Platte	William D. Soper, Liberty
Clay-Platte	David E. Wilson, Kansas City
Northwest	Edward F. Bare, Tarkio
Northwest	K. R. Jefferis, Maryville
Northwest	Frank Matteson, Grant City

Second District

Chariton-Macon-Monroe-Randolph	James E. Campbell, Macon
Chariton-Macon-Monroe-Randolph	J. Will Fleming, Moberly
Chariton-Macon-Monroe-Randolph	R. V. Tompson, Moberly
Marion-Ralls-Shelby	M. J. Bukstein, Hannibal
Marion-Ralls-Shelby	Carl R. Kruse, Palmyra
Marion-Ralls-Shelby	Edward Plowman, Hannibal
Pike	Laurence G. Stuerman, Louisiana

Third District

St. Louis	Luis B. Anglo, St. Louis

St. Louis	Robert Baglan, St. Louis
St. Louis	Vernon H. Balster, St. Louis
St. Louis	M. Roman Banton, St. Louis
St. Louis	William C. Banton, II, St. Louis
St. Louis	John W. Berry, St. Louis
St. Louis	James G. Blythe, St. Louis
St. Louis	George M. Bohigian, St. Louis
St. Louis	Robert L. Bolton, St. Louis
St. Louis	Harold H. Bowerman, St. Louis
St. Louis	Seymour Brown, St. Louis
St. Louis	R. William Burmeister, St. Louis
St. Louis	Edmond B. Cabbabe, St. Louis
St. Louis	Donald E. Callahan, St. Louis
St. Louis	Mary E. Case, St. Louis
St. Louis	Rudolph E. Catanzaro, St. Louis
St. Louis	M. Ishaq Chishti, St. Louis
St. Louis	Harry O. Cole, St. Louis
St. Louis	Nicholas J. Colosi, St. Louis
St. Louis	Cyril Costello, St. Louis
St. Louis	Henry C. Dugas, St. Louis
St. Louis	Virgilio Dumadag, St. Louis
St. Louis	James E. Edwards, St. Louis
St. Louis	Linda A. Fisher, St. Louis
St. Louis	George D. Flanigan, St. Louis
St. Louis	Mariano N. Floro, M.D.
St. Louis	Paul L. Friedman, St. Louis
St. Louis	Joseph Gagliardo, St. Louis
St. Louis	John A. Gantz, St. Louis
St. Louis	David L. Gearhart, St. Louis
St. Louis	August W. Geise, St. Louis
St. Louis	John H. Gladney, St. Louis
St. Louis	William H. Huffaker, St. Louis
St. Louis	Frank Johnson, St. Louis
St. Louis	Mohammed A. Kabir, St. Louis
St. Louis	Abdul R. Khan, St. Louis
St. Louis	Edward H. Kowert, St. Louis
St. Louis	Jerome L. L'Ecuyer, St. Louis
St. Louis	John M. Laird, St. Louis
St. Louis	Francis X. Lieb, St. Louis
St. Louis	Alan M. Londe, St. Louis
St. Louis	William H. McAlister, St. Louis
St. Louis	Otakar Machek, St. Louis
St. Louis	Maria E. Manion, St. Louis
St. Louis	Robert Marcus, St. Louis
St. Louis	Robert A. Mayer, St. Louis
St. Louis	Orlando G. Meneses, St. Louis
St. Louis	Jerry N. Middleton, St. Louis
St. Louis	Frank Ostapowicz, St. Louis
St. Louis	Leopoldo P. Pardo, St. Louis
St. Louis	Beaumonoir Prophete, St. Louis
St. Louis	Richard T. Quick, St. Louis
St. Louis	Robert H. Ramsey, St. Louis
St. Louis	Hubert A. Ritter, St. Louis
St. Louis	H. E. Rosenbaum, St. Louis
St. Louis	Jo-Ellyn M. Ryall, St. Louis
St. Louis	Antonio B. Santillano, St. Louis
St. Louis	Lourdes Santos-Pardo, St. Louis
St. Louis	John S. Sciortino, St. Louis
St. Louis	Donald G. Sessions, St. Louis
St. Louis	Edward J. Shaw, St. Louis
St. Louis	Andrew J. Signorelli, St. Louis
St. Louis	David L. Simon, St. Louis
St. Louis	Gokul C. Singhal, St. Louis
St. Louis	Kenneth R. Smith, Jr., St. Louis
St. Louis	Walter R. Stafford, St. Louis
St. Louis	Bruce Stoliar, St. Louis
St. Louis	Dolores R. Tucker, St. Louis
St. Louis	Harvey Walker, Jr., St. Louis
St. Louis	Miles C. Whitener, St. Louis
St. Louis	James M. Whittico, St. Louis
St. Louis	James Wiant, St. Louis
St. Louis	David L. Wilkinson, St. Louis
St. Louis	Carol F. Williams, St. Louis

Fourth District

St. Charles-Lincoln	Paul H. Rother, St. Charles

Fifth District

Audrain	Steve Taylor, Mexico
Audrain	Raymond Wilbers, Mexico
Boone	William C. Allen, Columbia
Boone	Wilson Beckett, Columbia
Boone	William D. Bradshaw, Columbia
Boone	Diane Brukardt, Columbia
Boone	James Chapel, Columbia
Boone	James Denninghoff, Columbia
Boone	Richard Heimburger, Columbia
Boone	Clarence Pickard, Columbia
Boone	James Pickens, Columbia
Boone	Kenneth Rall, Columbia
Boone	James Roller, Columbia
Boone	Gilbert Ross, Jr., Columbia
Boone	Garth Russell, Columbia
Boone	Robert Thomas, Columbia
Callaway	Mike Frederich, Fulton
Cole	Victoria Gunn, Jefferson City
Cooper	George W. Winn, Boonville
Lake of the Ozarks	Chris K. Fotopoulos, Osage Beach
Lake of the Ozarks	Ray Lyle, Versailles
Lake of the Ozarks	Otis Moseley, Osage Beach
Moniteau	L. M. Gallagher, California
Montgomery	S. J. Byland, Wellsville

Sixth District

Lafayette-Ray	George K. Davault, Richmond
Lafayette-Ray	Jerry L. Meyer, Concordia
Pettis	Robert Stockwood, Sedalia
Saline	E. Lee McCorkle, Marshall
Saline	K. T. Papreck, Marshall
West Central	Arthur L. Hansen, Butler
West Central	Robert L. Magee, Eldorado Springs
West Central	Candice A. Moore, Nevada
West Central	M. Ted Moore, Nevada

Seventh District

Jackson	Jennifer D. Ashby, Kansas City
Jackson	Keith W. Ashcraft, Kansas City
Jackson	Terrence A. Bidnick, Lee's Summit
Jackson	Michael R. Caughron, Kansas City
Jackson	C. E. Engelmann, Kansas City
Jackson	Reinhold Engleman, Kansas City
Jackson	Lawrence L. Evans, Kansas City
Jackson	Robert C. Fairchild, Kansas City
Jackson	David Fortin, Kansas City
Jackson	B. J. Geha, Kansas City
Jackson	John R. Goheen, Kansas City
Jackson	John W. Hardy, Kansas City
Jackson	Thomas Helling, Kansas City
Jackson	John W. Irvine, Kansas City
Jackson	Harry S. Jonas, Kansas City
Jackson	John K. Layle, Jr., Kansas City
Jackson	Carleton J. Lindgren, Kansas City
Jackson	Stacy Long, Kansas City
Jackson	Charles M. Luetje, Kansas City
Jackson	Clyde V. Martin, Kansas City

Jackson	William J. Medlicott, Kansas City
Jackson	Richard Michelson, Kansas City
Jackson	Lillian Pardo, Kansas City
Jackson	Manuel P. Pardo, Kansas City
Jackson	W. R. Peterson, Kansas City
Jackson	Tom Phillips, Kansas City
Jackson	Michael J. Porter, Kansas City
Jackson	Robert A. Raich, Kansas City
Jackson	Dorothy D. Reister, Kansas City
Jackson	W. Robinett, Kansas City
Jackson	Donald C. Sanders, Kansas City
Jackson	Robert G. Schwegler, Kansas City
Jackson	R. A. Slickman, Kansas City
Jackson	Elias M. Throne, Kansas City
Jackson	Lowell Weiner, Kansas City
Jackson	Charles L. Weinstein, Kansas City
Jackson	David D. Zoller, Kansas City

Eighth District

Dallas-Hickory-Polk-Dade	O. A. Griffin, Buffalo
Dallas-Hickory-Polk-Dade	Ruth Rios, Bolivar
Greene	A. A. Ancheta, Springfield
Greene	Floyd Barnhill, Springfield
Greene	W. F. Clary, Springfield
Greene	F. M. Corry, Springfield
Greene	Darrel Domann, Springfield
Greene	Michael Gentry, Springfield
Greene	David Hall, Rogersville
Greene	Duane Hellam, Springfield
Greene	Berry Ivy, Springfield
Greene	W. B. Johnson, II, Springfield
Greene	Harold Lurie, Springfield
Greene	Don Menchetti, Springfield
Greene	DeArmond Moore, Springfield
Greene	E. Rule Olson, Springfield
Greene	Stanley S. Peterson, Springfield
Greene	Ramon Shane, Springfield
Greene	Ronald Wachter, Springfield
Greene	Courtney Whitlock, Springfield
Greene	Arlen Winsky, Springfield
Jasper	Herbert Dixon, Joplin
Jasper	Jim D. Frogge, Joplin
Jasper	Mark Judge, Joplin
Jasper	Carl Pearman, Joplin
Jasper	Howard H. Roberts, Joplin
Jasper	Robert Willcoxon, Joplin
Ozarks	Paul B. Anderson, Neosho
Ozarks	Joseph L. Bizek, Aurora
Ozarks	Daniel C. Campbell, Mt. Vernon
Ozarks	T. L. Huffman, Branson

Ninth District

Mid-Missouri	Hugh Bartlett, Rolla
Mid-Missouri	Deo K. Bhati, Salem
South Central	M. H. Choudhury, Mansfield
South Central	Laureano Mayuga, Cabool
South Central	Claude Smith, Willow Springs
South Central	Joe Wall, Houston

Tenth District

Butler-Wayne-Ripley-Carter	R. C. Engelhardt, Poplar Bluff
Butler-Wayne-Ripley-Carter	Robert H. Laatsch, Poplar Bluff
Butler-Wayne-Ripley-Carter	Eugene T. Ruff, Poplar Bluff
Butler-Wayne-Ripley-Carter	Kirby Turner, Poplar Bluff
Cape Girardeau	Charles E. DeFelice, Cape Girardeau
Cape Girardeau	Gordon W. Eller, Cape Girardeau
Cape Girardeau	Theodore J. Glenn, Cape Girardeau
Cape Girardeau	J. Marshall Jung, Cape Girardeau
Cape Girardeau	Melvin C. Kasten, Cape Girardeau
Cape Girardeau	Charles P. McGinty, Cape Girardeau
Cape Girardeau	J. W. Terry, Cape Girardeau
Jefferson	James Conant, De Soto
Jefferson	N. K. Datta, Festus
Mineral Area	Victor D. Bentinganan, Fredericktown
Mineral Area	Robert F. Dettmer, Ironton
Perry-Ste. Genevieve	D. Limpiphiphatn, Perryville
Perry-Ste. Genevieve	Ester Limpiphiphatn, Perryville
SEMO	Richard Comeau, Dexter
SEMO	Max A. Heeb, Sikeston

Delegates-At-Large

Jay Meyer, St. Louis, Speaker
Barbara Buchanan, Kansas City, Vice-Speaker

Past-Presidents

Richard V. Bradley, St. Louis
Victor B. Buhler, Kansas City
Joseph L. Fisher, St. Joseph
E. T. Hansbrough, Poplar Bluff
John N. Martin, St. Joseph
Howard J. McAlhany, Springfield
Andrew McCanse, Kansas City
Doyle C. McCraw, Bolivar
H. E. Petersen, St. Joseph
Byron M. Stuart, Boonville

Student Delegates

Mr. Michael Funderburk, University of Missouri-Kansas City School of Medicine
Mr. Arthur Kavanaugh, St. Louis University School of Medicine
Mrs. Jane D. Reardon, University of Missouri-Kansas City School of Medicine
Ms. Mary Colette Schmidt, University of Missouri-Columbia School of Medicine
Mr. L. Mark Taylor, University of Missouri-Columbia School of Medicine
Ms. Ladonna Wood, St. Louis University School of Medicine

Dr. Chris Fotopoulos, chairman of the Credentials Committee, reported that ten officers, 22 councilors and 123 delegates were present and constituted a quorum.

The minutes of the 124th Annual Session in Kansas City were approved as reported in the July, 1982 issue of Missouri Medicine.

Reference Committees

The Speaker announced the appointment of the following reference committees:

CONSTITUTION AND BYLAWS

William J. Medlicott, Kansas City, *Chairman*
Thomas L. Huffman, Branson
David Wilkinson, St. Louis
Mrs. Jane Dice Reardon, University of Missouri-Kansas City
Gordon W. Eller, Cape Girardeau

REPORTS OF OFFICERS

Paul L. Friedman, St. Louis, *Chairman*
Herbert K. Dixon, Joplin
Mary E. Case, St. Louis
Robert V. Tompson, Moberly
Wade V. Robinett, Kansas City

RESOLUTIONS

Kenneth Rall, Columbia, *Chairman*
George Flanigan, St. Louis
Robert W. Stockwood, Sedalia
Keith W. Ashcraft, Kansas City
William D. Soper, Liberty

The Speaker invited the Vice-Speaker, Barbara Buchanan, M.D., to preside. The Vice-Speaker introduced John I. Matthews, M.D., president of the MSMA; Ronald A. Youmans, M.D., president-elect of the MSMA; and Mrs. Sam L. Gaston, president of the MSMA Auxiliary, respectively. Each addressed the House and their remarks are published in this issue, beginning on page 349.

Mrs. Gaston announced that Mrs. John G. Bates of Cuthbert, Ga., president-elect of the AMA Auxiliary, was a special guest of the MSMA Auxiliary. She also introduced Mrs. Donald Sanders of Kansas City, president-elect of the MSMA Auxiliary, and Mrs. William D. Hughes of Montgomery, Ala., president of the Southern Medical Association Auxiliary.

Mrs. Gaston then introduced Dr. Hubert A. Ritter of St. Louis, a member of the AMA Board of Trustees and a past-president of the AMA Educational Research Fund (AMA-ERF).

Dr. Ritter spoke briefly, pointing out that since it was founded in 1951, the AMA-ERF had donated more than $36 million to medical schools in the United States for unrestricted use. He also commented on the guaranteed loan program to medical students, their continuing need for assistance and the formation of a new division of AMA-ERF to which physicians and auxiliary members can donate funds.

Dr. Ritter than assisted Mrs. Gaston in presenting AMA-ERF's checks to Missouri's four medical schools as follows: Washington University, $8,107.88; University of Missouri-Columbia, $6,951.69; St. Louis University, $18,052.36; and the University of Missouri-Kansas City, $5,767.60.

President Matthews announced the second recipient of the annual Missouri State Medical Association's *Citizenship and Community Service Award*, which he presented to Dr. Raymond Ritter, Sr. of Cape Girardeau. Criteria for nomination for the award are as follows:

> "The recipient must have made an outstanding contribution to the community for citizenship and public service above and beyond the call of duty as a practicing physician."

Dr. Matthews reported the many capacities in which Dr. Ritter has taken an active role in both his profession and in all communtiy growth. In addition to his many civic accomplishments, Dr. Ritter, who practiced medicine for 50 years, has served as vice-president of the Missouri State Medical Association, president of the Cape Girardeau County Area Medical Society and, more recently, as editor of the *Cape County Journal*. He served as president of the Missouri State Surgical Society, as councilor for the International College of Surgeons and on the State Board of Registration for the Health Arts from 1961 to 1968. He also served as medical director of the Southeast Missouri Professional Standards Review Organization.

Dr. Ritter was an international delegate to the Rotary Convention in Rome and was given an audience with the Pope. In 1982, the Rotary Club named him a Paul Harris Fellow, one of its highest designations. He was a 32nd Degree Mason and was designated "Commodore of the City of Cape Girardeau" by the Cape Girardeau Chamber of Commerce.

President Matthews then presented an award of special merit and recognition to Dr. Stanley S. Peterson of Springfield for his outstanding accomplishments and his 30 years as an unusually active and concerned member of the MSMA. Dr. Peterson served as first vice-president of the MSMA, a member of the House of Delegates, vice-speaker and speaker of the House of Delegates, and a MSMA delegate to the AMA House of Delegates for many years. He was equally active in his local Greene County Medical Society.

Dr. Peterson has been founder and is now president of the American Federation of Physicians and Dentists and of the Missouri Chapter. He also has been the MSMA representative to the Missouri Division of Family Services for many years.

President Matthews then introduced Harrison L. Rogers, Jr., M.D., Speaker of the AMA House of Delegates, who addressed the House.

Supplementary Council Report

Speaker Meyer then presided and referred the delegates to the Supplementary Council Report as presented by Dr. James A. Stokes, chairman.

The Council of the Missouri State Medical Association met at 3 PM on Wednesday, March 16, 1983, in the Parasol Foyer of the Tan-Tar-A Resort in Osage Beach, Mo.

On motion, duly seconded, the minutes of the Jan. 29, 1983 meeting were approved.

Mr. Cooper, MSMA executive secretary, read a short note from Mrs. Irene Miller thanking the Association for its contribution to the Missouri State Medical Foundation in memory of her late husband, Dr. Gerald L. Miller, Sr., a past-president of the Association.

The Council approved the dates of April 11-14, 1985 at the Hyatt Regency in Kansas City for the 1985 Annual Convention. Mr. Cooper mentioned that the Association would like to have an invitation for the 1986 and 1987 Annual Convention during the final session of the House.

Mr. Cooper reported that we are looking forward to a very good meeting. All exhibit space has been sold and room reservations are running far ahead of previous years. Banquet tickets will go on sale at noon on Thursday and will be sold until 5 PM on Friday. *No banquet tickets will be sold on Saturday*.

A marketing seminar for physicians will be held on Aug. 12, 1983, at the Breckenridge Concourse Hotel in St. Louis. A practice management workshop will be held in St. Louis on April 28-29, and this workshop is sold out.

Dr. Matthews stated that a meeting was held with the Missouri Attorney General on February 15 regarding physicians dispensing drugs. Currently, physicians cannot delegate the dispensing of drugs from their office to a subordinate while pharmacists are allowed to do so. The Attorney General has been asked for re-interpretation of this ruling.

A press conference was held on March 7, regarding an article on dioxin that is being published in the March issue of Missouri Medicine. The author of the article, Dr. William Dunigan, a member of the Department of Dermatology at the University of Missouri-Columbia; Dr. Philip Anderson, chairman of the Department of Dermatology at UMC; and Dr. Matthews fielded questions on the article that indicated that dioxin may not be as toxic as recent reports have indicated. Dr. Matthews suggested that everyone make an effort to read this article.

Dr. Matthews reported that he and Mr. Cooper attended a Legislative Meeting in Springfield on March 7. Dr. Seward, a member of the AMA Legislative Committee, gave an excellent presentation.

In the absence of Dr. Burkey, Editor of Missouri Medicine, Dr. Matthews reported that at the suggestion of Dr. Burkey, all current members of the Publications Committee be reappointed and that four new members be added to the Editorial Board. These are: *Anesthesiology* — Dr. George Hoech, Kansas City; *Cardiovascular Surgery* — Dr. Jack Curtis, Columbia; *Infectious Diseases* — Dr. Lawrence Gelp, St. Louis; and *Neonatology* — Dr. Elizabeth James, Columbia.

On motion, duly seconded, the above appointments were approved.

Mrs. Sam L. Gaston, president of the MSMA Auxiliary, invited those present to attend the Benefit Auction on Thursday evening. She called attention to the Auxiliary Long Range Planning Report and asked them to study this report for possible future action. Mrs. Gaston reported that in the near future, there will be two more organized county auxiliaries in the state. On behalf of the Auxiliary, Mrs. Gaston wished the Association a successful and productive meeting and thanked the Council for all of the assistance extended to the Auxiliary during the past year.

Dr. Jay Meyer, speaker of the House, asked the Council members if they had any objection to the Nominating Committee report being presented at the Friday Session of the House instead of the Sunday Session as in previous years. It gives the House an opportunity to ponder the nominations, with the election being held during the Sunday Session of the House. The Council agreed to this proposal.

Dr. T. J. Cooper, chairman of the Committee to Implement a Medicine/Business Coalition, brought the Council up to date on activities throughout the state. The Medicine/Business Coalition in St. Louis is functioning well. Dr. Cooper pointed out that an interim report of the Committee appears in the Handbook.

Dr. Matthews, chairman of the Committee on Legislative Affairs, updated the Council on current legislation and a complete report is before this Session of the House of Delegates.

Dr. Robert Slickman introduced Dr. Harrison L. Rogers, Jr., speaker of the AMA House of Delegates. Dr. Rogers indicated that he would speak before the House of Delegates on Thursday and at the General Session on Friday. He then presented a few brief remarks on the implications of the Tax Equity and Fiscal Responsibility Act (TEFRA); the competition factor for physicians because of the increasing number of physicians and the possible decreasing amount of health care dollars; and the possible effect of the new JCAH regulations on Medicine.

Dr. Youmans presented a resolution on "JCAH Accreditation Manual for Hospitals — Draft Revisions." After a brief discussion, the Council agreed to present this resolution to this Session of the House of Delegates.

Dr. Donald McIntosh presented the report of the Committee on the Impaired Physician. This report appears in the Handbook. The report calls for a full-time medical director, but Dr. Matthews pointed out that due to the high fiscal note, perhaps the Association should pursue a course utilizing the services of a part-time medical director or a medical expert who would work on a consulting basis. Dr. McIntosh indicated that he recognized the fiscal note was rather high and felt that implementation of any of Dr. Matthews suggestions would greatly benefit the impaired physician program.

The next meeting of the Council will be held immediately following the third session of the House of Delegates on Sunday.

(This report was referred to the Reference Committee on Reports of Officers.)

NOMINATING COMMITTEE

President Matthews appointed the following members to the Committee on Nominations: William Soper, Liberty, *First District;* Edward Plowman, Hannibal, *Second District;* Dennis Smith, St. Louis, *Third District;* Paul Rother, St. Charles, *Fourth District;* Chris Fotopoulos, Osage Beach, chairman, *Fifth District;* Jerry Meyers, Concordia, *Sixth District;* Dorothy Reister, Kansas City, *Seventh District;* Stanley S. Peterson, Springfield, *Eighth District;* C. F. Smith, Willow Springs, *Ninth District;* Melvin Kasten, Cape Girardeau, *Tenth District;* Ms. Jan D. Reardon, Kansas City, *Student Delegation*.

At the request of the speaker, members of the House of Delegates stood for a moment of silence in memory of the Missouri State Medical Association members who died during the past year. The memoriam resolution and list of deceased members are published on page 379.

The Speaker referred the delegates to the prefiled resolutions to be considered at the second session and reminded them that additional resolutions could be introduced for a two-thirds vote of acceptance for consideration by the House.

Resolutions introduced at this session and accepted for deliberation at the Second Session are the following:

Resolution #23 — JCAH Accreditation Manual for Hospitals — Draft Revisions

Resolution #24 — Joint Commission on Accreditation of Hospitals

Dr. Walter German, Springfield, introduced a courtesy resolution that would extend best wishes for a speedy recovery to Dr. Tommy McDonald, family practitioner of Marshfield, who was unable to attend the MSMA Annual Convention for the first time since 1954 because of illness.

(The courtesy resolution was approved unanimously.)

The speaker adjourned the first session of the MSMA House of Delegates.

SECOND SESSION

The Second Session of the House of Delegates was called to order at 4 PM on Friday, March 18, 1983 by Speaker Jay Meyer.

Dr. Chris Fotopoulos, chairman of the Committee on Credentials, reported that ten officers, 22 councilors and 225 delegates were present and constituted a quorum.

The Speaker introduced Mr. O. W. Wright, associate director of AMA Medical Society Relations, who attended the meeting.

Dr. Richard Bradley, president of MOMEDICO, presented a report on the organization, progress, services, accomplishments and goals of MOMEDICO since it was organized in 1978.

Dr. John N. Martin, chairman, presented a report on MMPAC, urged all members to join and invited them to attend the Board meeting on Saturday.

NOMINATING COMMITTEE

Dr. Chris Fotopoulos, chairman of the Nominating Committee, submitted the names of the following members on the slate of officers for the ensuing year:

Vice-President — Dr. Robert C. Fairchild, Shawnee Mission, Kan.

Vice-President — Dr. John H. Waltersheid, Hannibal

Vice-President — Dr. Virgil E. Jeans, Joplin
Speaker — Dr. Barbara Buchanan, Kansas City
Vice-Speaker — Dr. Arlen D. Winsky, Springfield
AMA Delegate — Dr. Melvin C. Kasten, Cape Girardeau
AMA Delegate — Dr. Robert A. Slickman, Kansas City
AMA Delegate — Dr. Richard P. Bowles, Liberty
AMA Alternate Delegate — Dr. Vernon Balster, St. Louis
AMA Alternate Delegate — Dr. Marvin A. Singleton, Joplin
AMA Alternate Delegate — Dr. Robert McDonald, St. Louis

(There were no nominations from the floor. The Speaker announced that the slate of officers listed above would lay on the table until the next session as required by the MSMA Bylaws.)

Dr. R. Stacey Long, Kansas City, then presented the Merit Award of the Jackson County Medical Society to Dr. Irving Howard Clark of Kansas City and read the accompanying resolution honoring Dr. Clark for his outstanding service and dedication. Dr. Long explained that the merit award was established in 1941 as an expression of professional appreciation and to demonstrate to the community and to local, state and national professional associations that the contributions of its recipients as outstanding members of Jackson County Medical Society are recognized by their peers and colleagues. The resolution was adopted by unanimous vote by the Jackson County Medical Society Board of Directors on Feb. 28, 1983.

CONSTITUTION AND BYLAWS

Dr. William J. Medlicott, chairman, reported the following considerations of the Reference Committee on Constitution and Bylaws:

Consent Calendar

1. Report of the Committee on Constitution and Bylaws.
2. Report of the Commission on Medical-Legal Affairs.
3. Report of the Committee on Legislative Affairs.

(The chairman stated that the changes in the Constitution reported by the Committee on Constitution and Bylaws Report #1 had been introduced at the 1982 Annual Convention. The Changes in the Constitution as adopted are reported on page 378.

The report of the Committee on Constitution and Bylaws and the report of the Commission on Medical-Legal Affairs were adopted as recommended by the Reference Committee.

The report of the Committee on Legislative Affairs also was adopted. The chairman suggested special commendation to the Committee on Legislative Affairs.)

House actions on the following resolutions are reported in the section on "Resolutions" on pages 381-385.

Resolution #5 — Extension of Missouri State Medical Foundation Assessment
Resolution #7 — Increased Membership
Resolution #8 — Elimination of Student Member Dues
Resolution #16 — Medical School Deans as At-Large Delegates
Resolution #17 — Establish MSMA Judicial Council
Resolution #22 — Physician Surplus

At this time, the Speaker turned the gavel over to Vice-Speaker Barbara Buchanan.

REPORTS OF OFFICERS

Dr. Paul L. Friedman, chairman, reported the following considerations of the Reference Committee on Officers:

Consent Calendar

1. Report of the President
2. Report of the President-Elect
3. Report of the MSMA Auxiliary President
4. Report of the Secretary
5. Report of the Treasurer — MSMA Financial Statement
6. Report of the Executive Secretary
7. Council Minutes of April 4, May 22, September 11 and December 11 in 1982 and January 29 and March 16 in 1983
8. Report of the Missouri State Medical Foundation — MSMF Financial Statement
9. Report of the Committee on Planning
10. Report of the Commission on Public Affairs
11. Report of the Committee on Publications

(There being no objections, the above items were considered as adopted.)

House action on the following resolutions are reported in the section on "Resolutions" on pages 381-385.

Resolution #1 — Year of the Unborn
Resolution #3 — Action Plan — MOMEDICO
Resolution #6 — Involvement in the Political Process
Resolution #9 — Long Range Planning Seminar
Resolution #12 — Education of Public Regarding Dioxin
Resolution #21 — MSMA Committee/Commission Appointments
Resolution #23 — JCAH Accreditation Manual for Hospitals-Draft Revisions
Resolution #24 — Joint Commission on Accreditation of Hospitals

Dr. Meyer assumed the gavel at this time.

RESOLUTIONS

Dr. Kenneth Rall, chairman, reported the following considerations of the Reference Committee on Resolutions:

1. Report of the Commission on Medical Economics, Third Party Medicine and Government Relations.
2. Report of Ad Hoc Committee to Implement Medicine/Business Coalition
3. Report of Commission on Interspecialty Medicine
4. Report of Commission on Continuing Education and Health Manpower
5. Report of the Committee on the Impaired Physician

(There being no objections, Reports #1, #2, #3 and #4 were considered as adopted. At the recommendation of the Reference Committee on Resolutions, the Report of the Committee on the Impaired Physician was referred back to the Council for further study.)

House actions on the following resolutions are reported in the section on "Resolutions" on pages 381-385.

Resolution #2 — Payment for Cognitive Services
Resolution #4 — Action Plan — Health Care for the Indigent
Resolution #10 — Formation of Statewide Peer Review Organizations
Resolution #11 — Electroconvulsive Therapy
Resolution #13 — Delay in Patient Compensation by Medicare and Medicaid Agencies
Resolution #14 — Support Midwest Interstate Compact on Low-Level Radioactive Waste
Resolution #15 — Regulation of Cigarette Smoking in Public Areas
Resolution #18 — Opposition to Federal Peer Review Programs

Resolution #19 — Data Collection Through the Peer Review Improvement Act of 1982
Resolution #20 — Insurance Assignments

The meeting was recessed until the Third Session on Sunday, March 20.

THIRD SESSION

The third session of the MSMA House of Delegates was called to order by Speaker Jay Meyer at 7:30 AM on Sunday, March 20.

Dr. Chris Fotopoulos, chairman of the Credentials Committee, reported that ten officers, 22 councilors and 240 delegates were present and constituted a quorum.

NOMINATING COMMITTEE

As chairman of the Nominating Committee, Dr. Fotopoulos again presented the slate of officers for the ensuing year:

Vice-President — Dr. Robert C. Fairchild, Shawnee Mission, Kan.
Vice-President — Dr. John H. Waltershied, Hannibal
Vice-President — Dr. Virgil E. Jeans, Joplin
Speaker — Dr. Barbara Buchanan, Kansas City
Vice-Speaker — Dr. Arlen D. Winsky, Springfield
AMA Delegate — Dr. Melvin C. Kasten, Cape Girardeau
AMA Delegate — Dr. Robert A. Slickman, Kansas City
AMA Delegate — Dr. Richard P. Bowles, Liberty
AMA Alternate Delegate — Dr. Vernon Balster, St. Louis
AMA Alternate Delegate — Dr. Marvin A. Singleton, Joplin
AMA Alternate Delegate — Dr. Robert McDonald, St. Louis

(Additional)

AMA Alternate Delegate — Dr. Larry Piepergerdes, Kansas City

(There were no nominations from the floor. The above officers were elected by acclamation.)

The Speaker recognized Dr. Robert R. MacDonald, Jr. of St. Louis, Third District Councilor, who nominated Dr. James M. Stokes of St. Louis as president-elect of the MSMA.

Dr. Stokes was elected president-elect by unanimous consent. He was then escorted to the podium.

Dr. Ben Moranville, secretary, announced that the following councilors and vice-councilors had been elected:

Second District — Dr. Robert V. Tompson, Moberly
Vice-Councilor — Dr. Carl R. Kruse, Palmyra
Third District — Dr. Thomas J. Cooper, St. Louis
Dr. Richard H. Fallon, St. Louis
Dr. Carol F. Williams, St. Louis
Dr. Robert R. MacDonald, Jr., St. Louis
Vice-Councilor — Dr. David Wilkinson, St. Louis
Fourth District — Dr. William R. Richardson, Union
Vice-Councilor — Dr. Paul H. Rother, St. Charles
Sixth District — Dr. A. J. Campbell, Sedalia
Vice-Councilor — Dr. Jerry Meyer, Concordia
Seventh District — Dr. Donald E. McIntosh, Kansas City
Dr. Larry G. Piepergerdes, Kansas City
Vice-Councilor — Dr. Dorothy D. Reister, Shawnee Mission, Kan.
Eighth District — Dr. Walter A. German, Springfield
Vice-Councilor — Dr. Francis M. Corry, Springfield
Tenth District — Dr. George H. Ladyman, Poplar Bluff
Vice-Councilor — Dr. Melvin C. Kasten, Cape Girardeau
Student Councilor — Tom Reardon, Kansas City
Student Vice-Councilor — Mary Collette Schmidt, Columbia

Dr. German and Dr. Ekern to Head MSMA Council

Dr. Walter A. German, Springfield, was elected Chairman of the Council for 1983-1984 at the Council meeting that followed the MSMA House of Delegates Session on March 20. Dr. H. Peter Ekern, Mexico, was elected vice-chairman.

The Council also elected Dr. Berry Ivy, Springfield, as secretary of the MSMA and Dr. Jay Meyer, St. Louis, as treasurer.

COMMITTEE ON CONSTITUTION AND BYLAWS
(Report #2)

Dr. Kirby Turner, chairman of the standing Committee on Constitution and Bylaws reported that as a result of the action taken by the Reference Committee on Reports of Officers, the Committee on Constitution and Bylaws recommended the change in the Bylaws that would eliminate the Committee on Voluntary Health Agencies.

(Dr. Kirby's motion to make this change in the MSMA Bylaws was adopted.)

Vice-Speaker Buchanan then turned the gavel over to Speaker Meyer.

Installation of Officers

The speaker invited the officers, councilors and vice-councilors to stand in front of the podium where Dr. Ben A. Moranville, secretary, administered the oath of office.

The Speaker invited Pres. Ronald A. Youmans to announce his committee and commission appointments for the 1983-1984 year. Members whose terms had not expired were not mentioned and it is assumed that they will continue to serve.

Committee Appointments

Committee on Constitution and Bylaws — Merlin D. Brown, St. Joseph (term to expire in 1986); Kirby L. Turner, Poplar Bluff, *chairman* for 1983-1984.

Committee on Legislative Affairs — Ronald A. Youmans, Kansas City; James M. Stokes, St. Louis; Walter A. German, Springfield; H. Peter Ekern, Mexico; Donald Miller, Jefferson City; Larry Piepergerdes, Kansas City; Marvin A. Singleton, Joplin; Mrs. Donald C. Sanders, Kansas City, president of the MSMA Auxiliary, *Ex Officio;* and John I. Matthews, M.D., *chairman*.

Committee on Planning — L. G. Mayuga, Cabool (term to expire in 1986); Sam L. Farrell, Washington (term to expire in 1988); John C. Hagan, North Kansas City; and Dan T. Sullivan, Springfield, chairman for 1983-1984.

Action Committee to Negotiate with Third Parties and Hospitals — James P. Hopkins, Kansas City; Marvin A. Singleton, Joplin; E. T. Hansbrough, Poplar Bluff; Richard V. Bradley, St. Louis; and Stanley S. Peterson, Springfield, *chairman*.

Committee to Implement Medicine/Business Coalition — Walter A. German, Springfield; Milton Ozar, Kansas City;

and T. J. Cooper, St. Louis, *chairman.*

Liaison Committee with the Missouri Board of the Healing Arts — John N. Martin, St. Joseph; John I. Matthews, Jefferson City; T. J. Cooper, St. Louis; and Donald McIntosh, Kansas City, *Chairman.*

Committee on the Impaired Physician — David L. Ohlms, St. Louis and G. R. Reinhardt, Kansas City (terms to expire in 1986) and William I. Stryker, St. Louis, chairman for 1983-1984. Advisory Members — Jack Carmondy, St. Louis, Joseph Kendis, St. Louis; Hugh Bartlett, Rolla; and Warford B. Johnson II, Springfield.

Commission Appointments

Commission on Continuing Education and Health Manpower — Christopher H. Jung, Cape Girardeau; Wilbur A. Mullarky, St. Ann; and Hugh Lundman, Springfield (terms to expire in 1986); W. Wayne Boydston, Odessa; Stephen Brunton, Kansas City; and William D. Bradshaw, Columbia, *chairman* for 1983-1984.

Commission on Medical Economics, Third Party Medicine and Governmental Relations — Pierre Keitges, Kansas City; Arturo C. Montes, Florissant; and Frederick Thompson, Nevada (terms to expire in 1986); C. R. Talbert, Cape Girardeau; and Fred W. Hahn, Kansas City, *chairman* for 1983-1984.

Commission on Medical-Legal Affairs — Frank Ostapowicz, St. Louis; Allen L. Spitler, Cape Girardeau; and Ben I. Albano, Crystal City (terms to expire in 1986); John P. Roberts, St. Louis; Leonard Davis, Mexico (term to expire in 1985); and Garth S. Russell, Columbia, *chairman* for 1983-1984.

Commission on Public Affairs — Carl Pearman, Joplin; Elias M. Throne, Kansas City, *chairman* for 1983-1984; and Michael E. Critchlow, Sikeston (terms to expire in 1986); Joseph J. Lauber, St. Louis; and Richard Danis, St. Louis.

Commission on Interspecialty Medicine — It is the policy for the president of the Association to appoint representatives of the specialty organizations making up the Commission on Interspecialty Medicine as recommended by those specific organizations. Some of these organizations had not provided names of their proposed representatives by this date. Following are appointments of representatives who have been recommended:

Missouri State Allergy Association, Phillip Korenblat, St. Louis; *Missouri Society of Anesthesiologists*, Gregory Janeczko, Springfield; *Missouri Dermatological Society*, Louis C. Vollmar, Jr., St. Louis; *Missouri Chapter, American College of Emergency Physicians*, R. R. Hannas, Kansas City; *Missouri Academy of Family Physicians*, W. Wayne Boydston, Odessa; *Missouri OB-GYN Society*, Elwynn M. Grimes, Kansas City; *Missouri Ophthalmological Society, Inc.*, Harry L. Knopf, St. Louis; *Missouri State Orthopaedic Association*, Michael S. Clarke, Springfield; *Missouri Society of Pathologists*, H. Neal Grannemann, Rolla; *Missouri Academy of Pediatrics*, Donald L. Thurston, St. Louis; *Physical Medicine and Rehabilitation*, Otakar Machek, St. Louis; *Missouri Radiological Society*, Anthony A. Berni, St. Louis; *Missouri Chapter, American College of Surgeons*, Anthony E. Fatham, Chesterfield; *Missouri State Surgical Society*, Cyril J. Costello, St. Louis.

It was voted to hold the 126th Annual Convention in St. Louis in 1984; the 127th Annual Convention in Kansas City in 1985; the 128th Annual Convention in St. Louis in 1986; and the 129th Annual Convention at the Lake of the Ozarks in 1987.

The Speaker adjourned the 125th Annual Convention of the MSMA House of Delegates.

CANCER UPDATE '83

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Fall Oncology Meeting
November 18-19, 1983

CALL FOR ABSTRACTS

- Paper presentations (Friday evening). Abstracts must be postmarked by Sept. 1, 1983. Notice of presentation selection by Oct. 6, 1983.
- Poster Displays

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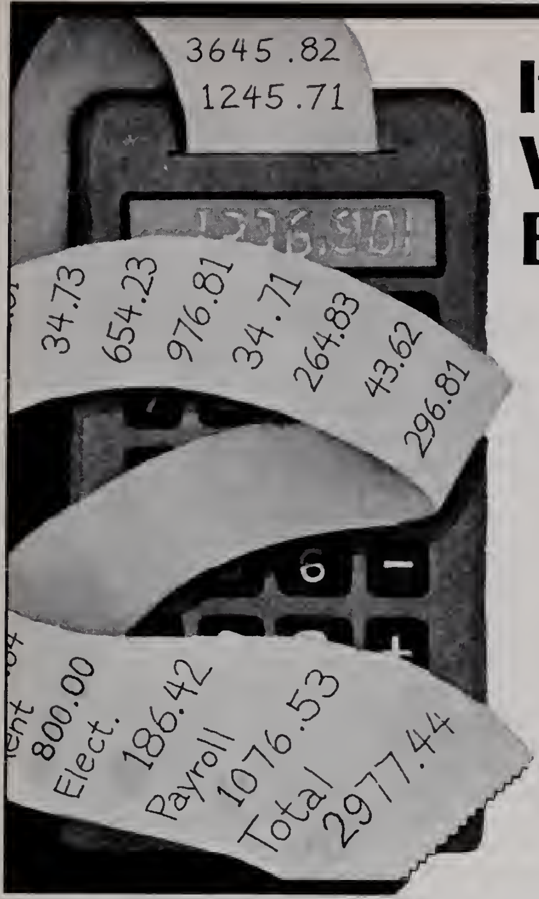

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Summary of Council Minutes

Meeting of April 4, 1982
Hyatt Regency Hotel-Kansas City

Dr. James M. Stokes was elected Chairman of the Council and thereby became the presiding officer. Dr. Walter T. German was elected Vice-Chairman of the Council; Dr. Carol F. Williams, Treasurer; and Dr. B. A. Moranville, Secretary.

Meeting of May 22, 1982
Holiday Inn East-Columbia

Added benefits to MSMA's insurance programs were announced. The maximum eligible expense for a hospital room was increased in the major medical program, administered by Forrest T. Jones and Company and underwritten by Mutual Life Insurance Company of New York.

The program now covers 20 office visits for mental and nervous conditions and provides a $1,500 benefit for care in a psychiatric residential treatment center. The $10,000 limitation for bed patient care for mental and nervous conditions, including alcoholism, was eliminated.

The disability insurance policy administered by Fred S. James and Company also broadened its coverage. They increased the amount of monthly benefits available from $2,166 to $3,000 monthly.

A third program which increased its benefits was the office overhead disability plan. The new plan offers an increase in maximum benefits available from $3,000 to $5,000. This coverage is most important for the practicing physician in offices where there are three or less members.

The Council approved submitting Dr. Linda Fisher, St. Louis, as a nominee to the State Board of Registration for the Healing Arts.

It was announced that Dr. Philip J. LeFevre, Springfield, would attend the AMA Impaired Physician Conference in Portland, Oregon.

The Council passed a resolution allowing the Clay County Medical Association to amend its bylaws so that it may reorganize with the Platte County Medical Society.

The development of a "Building and Maintaining of a Healthy Practice" seminar was approved.

Dr. John Martin's nomination to the AMA Board of Trustees for the American Medical Political Action Committee Board was resubmitted.

It was recommended that MSMA support the efforts of the Division of Health to establish a state clearinghouse for physician placement, yet still maintain Association placement efforts.

Dr. Charles C. Lobeck, Columbia; Dr. Harry Jonas, Kansas City; Dr. Robert McDonald, Jr., St. Louis; and Dr. Larry Piepergerdes, Kansas City, were named to a Medical School Liaison Committee.

It was reported that the Missouri Health Data Corporation sent a written statement explaining its policy of destroying collected data once the corporation is finished with it.

Ten Councilors were named to an ad hoc committee to make a proposed medicine-business coalition become a reality. Dr. T. J. Cooper was named chairman. The councilors named were: Drs. Richard Hedges, Patricio Avila, William Richardson, H. Peter Ekern, A. J. Campbell, Milton Ozar, Walter German, Jack Wiles and George Ladyman.

The following members were named to an Ad Hoc Committee on Teenage Drug Abuse to be under the Commission on Public Affairs: Dr. Robert Bregant, chairman; Drs. William K. Rosen, Kirby L. Turner, Thomas C. Thomas, Katherine W. Smith and John Kellet.

Dr. John K. Layle was named to the Commission on Medical Economics. Marvin Alberg was named to the Committee on Voluntary Health Agencies. Robert H. Ramsey was named to the Commission on Continuing Education and Health Manpower.

The Council referred a recommendation by the Commission on Continuing Education and Health Manpower to the Commission on Interspecialty Medicine. The Commission recommended that MSMA sponsor a second plenary session during the Annual Convention that would be of interest to all Missouri physicians.

A recommendation by the Commission on Continuing Education and Health Manpower was referred to the Commission on Public Affairs. The recommendation was to establish a statewide speakers bureau for MSMA physicians.

Dr. Mohammad Akhter, Director of the Division of Health, gave a report. He urged MSMA participation in the planning of 1983 programs and services, for which block grant money will be used.

It was announced that Dr. William C. Allen, an orthopaedic surgeon in Columbia, had been appointed chairman of the Governor's Council on Physical Fitness and Health.

The Council agreed to notify the State Board of Education that MSMA recommends that individual school boards make the decision regarding yearly physical examinations, since the state statute mandating teachers to obtain an annual physical examination was recently eliminated.

Meeting of September 11, 1982
Ramada Inn-Jefferson City

Dr. George Bohigian was nominated to run for the AMA Council on Scientific Affairs. Dr. Marvin Singleton was nominated to seek a position on the AMA Council on Legislation.

Dr. Francis X. Lieb was nominated for appointment to the AMA Ad Hoc Committee on Medicolegal Problems.

The Council discussed a recommendation calling for MSMA to become an umbrella PRO for the state of Missouri.

It was announced that the next "Establishing Yourself in Medical Practice" seminar will be held April 28-29, 1983 at the St. Louis Airport Marriott.

The Council voted to purchase a filmstrip projector to show MSMA television public service announcements at the next Annual Convention.

It was announced that Missouri currently has 5,071 AMA members.

Meeting of December 11, 1982
Holiday Inn East-Columbia

The Council approved a cooperative effort with the Missouri Association of Osteopathic Physicians and Surgeons (MAOPS) to form a freestanding corporation to provide statewide peer review for Medicare patients.

Dr. Matthews recommended that Dr. Richard V. Bradley, St. Louis, be MSMA's representative to the newly-formed AMA Health Policy Agenda's Advisory Committee.

Dr. Andrew McCanse, Kansas City, was designated as MSMA's nominee to serve on one of the work groups for the Health Policy Agenda.

The Council approved surveying other state medical associations to determine the effects of "direct membership" and to investigate means to stimulate membership among students and residents.

Broader advertising policies for *Missouri Medicine* were approved.

The Council approved a $2,000 expense appropriation for the Health Policy Agenda representative.

The Auxiliary was requested to conduct long-range planning.

The Public Affairs Committee's recommendations to establish a statewide speakers bureau and to distribute statewide a film on drug abuse was rejected.

The Council approved the Public Affairs Committee's recommendation to develop and distribute at cost to physicians a Patient Survey Brochure.

The issue of the recent merger of Clay and Platte County Medical Societies was referred to the MSMA Legal Counsel.

Three recommendations proposed by Dr. Richardson regarding staff policies at a Washington, Missouri hospital were approved.

The Council referred the matter of a chiropractic ad in Sedalia to the State Board of Chiropractic Examiners.

The MOMEDICO Board was urged by the Council to investigate expanding types of insurance offered to members.

The MSMA staff was instructed to summarize the Planning Proposals and insert into the Delegate's handbook.

The Council directed MSMA to establish a statewide appeals mechanism for private sector peer review.

Meeting of January 29, 1983
Holiday Inn East-Columbia

The dates of March 28 — April 1 were approved as the dates for the 1984 MSMA Annual Convention, to be held at the Breckenridge Concourse in St. Louis.

In order to insure MSMA representation on the Missouri Health Data Corporation, the Council rescinded its December 11, 1982 actions of the $10,000 loan to the Health Data Corporation and approved a $20,000 cash grant to MHDC.

The approximate $900,000 debt from the formation of MOMEDICO was assigned to the Budget and Finance Committee for study.

Three new television public service announcements were given to various Council members to distribute to their local stations.

Reports were heard from the Legislative Committee, the Commission on Medical Economics, and the Commission on Medical-Legal Affairs.

Dr. Dyer reported that, after careful study, the bylaws of the newly organized Clay-Platte County Medical Society were not in conflict with those of MSMA. The charter for the new society was signed by the MSMA president and secretary.

Dr. Jordan W. Burkey was appointed 1983-1984 editor of *Missouri Medicine.*

Dr. Raymond A. Ritter, Sr. was selected to receive the MSMA Citizenship and Community Service Award.

Marion-Ralls-Shelby Medical Society requested consolidation with Lewis-Clark-Scotland Medical Society to form the Northeast Missouri Counties Medical Society.

Reports of Committees and Commissions

REPORT OF THE COMMITTEE ON THE IMPAIRED PHYSICIAN

The Committee on the Impaired Physician met on Jan. 29, 1983 in addition to numerous phone conferences between committee members and MSMA staff. The committee is pleased to announce that previous referrals to the program continue to successfully recover. During 1982, 11 physicians have formally entered the program since their referral to the committee. In addition to these formal committee referrals, the hotline handled numerous inquiries from physicians, their families and concerned others as to resources available to them for a broad spectrum of problems.

Despite these successes, the committee continues to have the following concerns:

1. Eleven new cases to the committee is still a very poor penetration rate considering national studies on the incidence of troubled physicians and reports from our sister state medical societies.
2. There continues to be a chronic shortage of trained, qualified "volunteers" to serve as confronters, especially in the rural areas of the state.
3. The continuing manpower shortage continues to frustrate the quality and quantity of the "follow-up" given to those physicians who have been treated for various problems. Likewise, the manpower shortage prevents a much needed statewide public relations campaign to improve the "case finding" of the program.

During the Jan. 29, 1983 meeting, the committee once again unanimously went on record in favor of a full-time Medical Director for the Impaired Physician Program of the MSMA. Information has been collected from other state societies that have instituted such a position in their program and the committee recommends such a position be funded as soon as possible. The duties of the Medical Director would include, but not be limited to, the following:

- Responsible for all administrative activities of the Impaired Physician Program.
- Oversee the Impaired Physician Committee and their activities.
- Responsible for developing a panel of monitors and intervenors.
- Meets with every physician referred to the Impaired Physician Program.
- Visits all licensed treatment facilities in Missouri.
- Maintains contact with physicians following completion of treatment program.
- Appears before each medical staff of Missouri hospitals seeking their cooperation and support.
- Develops a liaison with the Missouri Hospital Association, the State Board of Healing Arts and other appropriate state agencies.
- Contacts pharmaceutical companies as to feasibility of establishing a treatment loan fund.
- Explores avenues to utilize physician services prior to reentry into private practice of medicine.
- Meets regularly with representatives of the Division of Health to establish a urine monitoring program.

It is felt that a reasonable budget would include the following:

Full-time Medical Director	$75,000.00
Secretary — full-time	10,000.00
Travel Expense	4,000.00
Educational Materials	6,000.00
Total	$95,000.00

During the past year, the chairman and one committee member attended the AMA Conference on the Impaired Physician and returned convinced that the establishment of a Medical Director position is an essential step in creating a truly effective program to reach the troubled physicians and their families in this state.

In addition to the above activities, the committee spent considerable time in establishing a working relationship with the Impaired Dentist Program in Missouri, the Missouri Hospital Association, and with a core group of nurses who are attempting to set up a comparable program for their profession.

The committee wishes to thank the MSMA membership and Councilors for their continuing support of this vitally important project. We strongly feel that the time is ripe to move on with this program in a serious fashion in order to reach greater numbers of our profession and their families. The committee is convinced that the groundwork has been laid to where with further support, the MSMA can lead the nation in their efforts to help our friends and colleagues.

David L. Ohlms, *Chairman*
Henry V. Guhleman
Philip J. Le Fevre
John J. O'Hearne
William I. Stryker

REPORT OF THE COMMITTEE ON CONSTITUTION AND BYLAWS

Since neither the House of Delegates nor the Council assigned any issues to your Committee on Constitution and Bylaws during the past year, it was not deemed necessary to hold a meeting. Your Committee will review the actions taken at this Annual Convention and the actions of the Council throughout the year to determine if changes in the Association's Constitution and Bylaws should be submitted for your consideration prior to our next Annual Convention.

Your Committee does present to you at this time changes in Article VI, Article VII and Article XI of the Constitution which were introduced at the 1982 Annual Convention. Since these are changes in the Constitution, they were required to be held over for final vote at this meeting. *(Bracketed words are deleted, underlined words are inserted.)*

Article VI. Sessions and Meetings

Section 1. The Association shall hold an annual spring [session] Convention of the House of Delegates, at places fixed by the House of Delegates, the time of which shall be fixed by the Council. During the Annual Convention, the House shall hold at least three sessions.

Sec. 2. Special meetings of the Association or the House of Delegates may be called by a two-thirds vote of the Council and shall be called upon a petition signed by members equal in number to one third of the total number of delegates certified for the last Annual [Session] Convention.

Article VII. Officers

Section 1. The Officers of this Association shall be a President, a President-Elect, three Vice-Presidents, a Secretary, a Treasurer, a Speaker and a Vice-Speaker of the House of Delegates and Councilors selected as provided for.

Sec. 2. The Officers shall be elected annually. The term of Councilors and Vice-Councilors shall be two years, except for the duly elected medical student Councilor who shall be elected for a one-year term. Half of the membership of the Council shall be elected each year. The Secretary and Treasurer shall be elected by the Council from the general membership. The delegates present from each Councilor District shall meet prior to the last day of the Annual [Session] Convention and elect the Councilors and Vice-Councilor from that district. The Delegates from the medical school component societies shall meet prior to the last day of the Annual [Session] Convention and elect a medical student Councilor and Vice-Councilor. In the event of death, resignation or removal of any Councilor, the Vice-Councilor shall automatically fill the vacancy. The officers shall serve until their successors are elected and installed.

Article XI. Amendments

The House of Delegates may amend any article of the constitution by a two-thirds vote of the delegates present and voting in any Annual Convention, provided that such amendment shall have been presented.

Kirby L. Turner, *Chairman*
Miles C. Whitener
Roy Gillispie
John D. Hunkeler
Jo-Ellyn M. Ryall

REPORT OF THE COMMITTEE ON PLANNING

Acting upon the recommendations your Committee on Planning made in 1981, the MSMA Council conducted two "long-range planning sessions" this past year to establish goals for the Association.

Members of the Committee on Planning participated in these sessions along with Council members, AMA Delegates and other Association leaders.

Many of the proposed objectives that were forthcoming from the two 1½-day planning sessions held in August and November can be found in resolutions now before this House of Delegates.

Following adoption or rejection of the proposed objectives, your Committee on Planning will assess the current status of the Association and likely present additional proposals to this House for later consideration.

Melvin C. Kasten, *Chairman*
David Glover
Carl R. Kruse
Dan T. Sullivan
Joe L. Spears
George M. Bohigian
Fred D. Fowler
Gerald Hoxworth
Sammy L. Farrell
Joseph R. Prokop

REPORT OF THE AD HOC COMMITTEE TO IMPLEMENT MEDICINE/BUSINESS COALITION

In its first year, the Committee took several actions toward fulfillment of Resolution #4 (A-82). Members of the Committee were identified from each of the ten MSMA Councilor Districts.

Efforts were concentrated on supplying information to each member, which would be useful in their respective areas. These included a newsletter from the Clearinghouse on Business Coalitions for Health Action and newspaper clippings.

The Committee identified three coalitions operating in Missouri, all locally based. They are located in St. Louis (St. Louis Area Business Coalition), Kansas City (Mid-America Committee on Health Care Costs) and Springfield (Medicine/Business Coalition of Greene County). One coalition in Moberly ceased operation due to lack of financial support.

The coalition had planned to assume the functions of the defunct Area II Health Systems Agency.

Thomas J. Cooper, *Chairman*
Richard C. Hedges
Patricio Avila
William R. Richardson
H. Peter Ekern
A. J. Campbell
Milton B. Ozar
Walter A. German
Jack Wiles
George H. Ladyman

REPORT OF THE COMMITTEE ON PUBLICATION

The 79th volume of Missouri Medicine was completed with the December, 1982 issue. During the year, 12 issues were printed and distributed. Ten of these issues contained scientific articles, special articles and features, organizational reports, monthly messages from the presidents of the MSMA and MSMA Auxiliary, the editor and news of items of interest to members of the medical profession.

The July issue presented a summary of the meetings and actions taken by the House of Delegates at the 124th MSMA Annual Session. The annual Directory-Membership Roster was published in August.

It was with regret that the MSMA Council accepted the resignation of Wilfred E. Wooldridge, M.D., Springfield, as editor. Dr. Wooldridge, who had served as editor since 1978, was presented a plaque of appreciation at the Annual Convention.

The Executive Council appointed Jordan W. Burkey, M.D., Springfield, as editor of Missouri Medicine and J. Bruce Stoliar, M.D., St. Louis, as associate editor. This announcement appears on page 203 of the April, 1982 issue.

There were three special issues of the Journal. The scientific articles in the June issue were contributed by members of the faculty of the University of Missouri-Columbia School of Medicine; the scientific articles in the October issue were contributed by members of the faculty of the University of Missouri-Kansas City School of Medicine; and the scientific articles in the December issue were contributed by members of the staff of the Ellis Fischel State Cancer Center.

During the year, 34 scientific articles, two special review articles and seven special features were published. Most were written by Missouri authors.

The editors wish to express appreciation to all who submitted scientific manuscripts and to all other individuals, institutions and organizations for their valuable contributions. This especially includes the administrations, faculties and publications departments of the University of Missouri in Columbia and Kansas City, St. Louis University, Washington University and the Ellis Fischel State Cancer Center.

The complete financial report for the Journal is included in the financial statement of the Missouri State Medical Association for 1982. The report is published in the March, 1983 issue of Missouri Medicine and is included in the Delegates' Handbook. At year's end, journal circulation was 6,693.

Jordan W. Burkey, *Chairman*
J. Bruce Stoliar, *Vice-Chairman*
Donald E. Menchetti
Jerry W. Templer
John K. Layle
Earl R. Schultz

REPORT OF THE COMMISSION ON PUBLIC AFFAIRS

The year 1982 was a productive one in the MSMA's public relations program. In the spring, each Missouri television station received three 30-second public service announcements with the MSMA's seal and tag line. By the end of the year, the MSMA had received more than $80,000 in complimentary air time.

In addition, 16 public service announcements were sent to 150 radio stations; "Medical Messages," a twice-monthly health news column, was sent to 300 newspapers; and news releases were sent monthly.

The Commission on Public Affairs met in Jefferson City on Aug. 29, 1982 and reviewed the report of a committee appointed to investigate the problem of teenage drug abuse. The Commission forwarded the following recommendations of the ad hoc committee to the Council for consideration:

1. Physicians must become aware of the drug and alcohol problem. It is the ad hoc committee's feeling that some physicians may not recognize signs of drug abuse in teenage patients.
2. One issue of Missouri Medicine should be devoted to the subject of adolescent drug and alcohol abuse.
3. One section of the MSMA Annual Convention should be devoted to the subject of adolescent drug and alcohol abuse.
4. Members of the MSMA should make themselves available to become involved with parent groups who are interested in the drug and alcohol problem.
5. The MSMA should form a State Health Committee, which should be advisory to the Board of Education and state health people. Currently, the Missouri school health education program is being revised. The program, which is scheduled to begin in 1990, is being planned without physician input.
6. The MSMA should attempt to have the film, "Epidemic," shown in every television viewing area around the state. "Epidemic" is a documentary on the youth drug movement and the effects it has on young people.

The Commission on Public Affairs also discussed new public relations projects at its August 29 meeting and made the following recommendations:

1. The MSMA should present annual awards to members of the media who cooperate with the MSMA in providing quality health education for their readers and listeners.
2. A statewide Speakers Bureau should be formed. An informational brochure should be developed for general distribution. Speaking engagements should be coordinated with each local medical society.
3. Patient Survey brochures should be printed and distributed to physicians at cost. Information on how to conduct the survey and how to apply survey results should also be distributed.
4. The Council should purchase a professional sign for the MSMA public relations booth at the 1983 Annual Convention. In addition, a portable filmstrip player, which would show the MSMA's television public service announcements, should be purchased.

At the December Council meeting the Council took action on a number of the Public Affairs Commission's recommendations. The Council noted that a professional sign had been ordered for the Annual Convention and that a filmstrip projector had been purchased.

The Council rejected the Public Affairs Commission's recommendation to establish a statewide Speakers Bureau, noting that most component societies already had a speakers bureau established.

Due to the high cost and the fact that the film, "Epidemic," had been distributed in Missouri a few years ago, the Council rejected the Ad Hoc Committee on Teenage Drug Abuse's recommendation to distribute the film.

The Council approved the Commission on Public Affairs' recommendation to develop and distribute at cost to physicians a Patient Survey brochure.

Elias M. Throne, M.D., *Chairman*
Leslie F. Bond, M.D.
Bruce Stoliar, M.D.
Dorothy D. Reister, M.D.
Carl Myers, M.D.
Victoria Gunn, M.D.
Hugh Bartlett, M.D.
Jean A. Chapman, M.D.
A. J. Campbell, M.D.
Charles L. Jobe, M.D.
Marvin R. Barbour, M.D.
Edward J. Miller, M.D.
Robert F. Tobin, M.D.
Chris K. Fotopoulos, M.D.
George Bohigian, M.D.

REPORT OF THE COMMISSION ON MEDICAL ECONOMICS, THIRD PARTY MEDICINE AND GOVERNMENTAL RELATIONS

The Commission met on July 31, 1982 and Jan. 15, 1983. At both meetings, the Commission discussed problems with Medicaid. Representatives of the Medicaid program appeared at both meetings to describe current problems and upcoming plans to alleviate these problems. A new fiscal agent, General American Consultec, assumed the responsibilities for processing claims during 1982. Most problems have occurred as a result of this transition and the failure of the State of Missouri to properly maintain eligibility files.

The Commission reviewed Medicaid expenditures and appropriations at each meeting and fiscal actions undertaken by the State to curtail overall expenditures. These included revision in the drug formulary; development of prepaid plans; implementation of a second opinion program; increases in certain physician fees to encourage after-hours care and office visits; a fee for use of the physician's office for certain ambulatory procedures; and a required copayment for hospital services.

The Commission expressed its ongoing concern with the provision of health care to the poor. During the first six months of 1982, a questionnaire survey was mailed to all MSMA members. The survey results document that a great deal of care is rendered to Medicaid recipients without reimbursement to physicians. Comments received indicated that this also occurs for other "poor" and "near poor" persons. For those physicians receiving Medicaid reimbursement, figures from Medicaid indicate they received only 36% of billed charges.

At its meeting in July, the Commission received a bibliography of recent studies that address the issue of providing care to the poor. The Commission acted on a resolution calling for a model program using tax credits or deductions to physicians for care to indigent patients and recommended these options not be pursued. The Commission based its recommendation, in part, on an AMA study that described the problems inherent in implementing these options.

The issue of health care for the poor will be a continuing concern of the Commission as directed in the long range plan of the MSMA, past and pending resolutions before the House of Delegates and fiscal difficulties in both federal and state medical assistance programs.

Beyond Medicaid, the Commission reviewed third-party payment problems in other areas. Mr. Larry Connor of General American attended the July meeting to describe the improvements the carrier has implemented and intends to implement for Medicare reimbursement. Unfortunately, these improvements barely offset fiscal restraints implemented by the Health Care Financing Administration. These restraints included a slower turnaround time; reductions in professional relations staff; fewer toll-free phone lines; less frequent payments; and hearings conducted over the phone instead of in-person.

Several letters submitted to the Commission documented problems encountered by the physicians in their relations with Blue Shield. These included refusal to reimburse for surgical assistants, delays in processing claims and requests for medical records without patient authorization or reimbursement.

At its meeting in January, the Commission reviewed and accepted three separate reports requested by the Commission or House of Delegates.

The first part of a five-part series studying the impact of various health care delivery entities on the practice of medicine was accepted by the Commission. This first report provided a definition and directory for all known health maintenance organizations, preferred provider organizations, hospital satellite clinics and freestanding emergency centers in Missouri. The report was approved and forwarded to the MSMA Council with the recommendation that it, or portions thereof, be widely distributed to the MSMA membership.

A report on peer review activities in Missouri was accepted as information to the Commission. Another report on hospital staff problems and AMA material providing guidelines for physicians was requested by the Commission in July and received in January.

In January, the Commission reviewed the minutes of two meetings of the Ad Hoc Committee to Review and Comment on Missouri Community Health Centers. The minutes provide MSMA comments to the Department of Health and Human Services regarding the operation of five community health centers. These comments were requested by the Department and based on data supplied by the Department and comments provided by the local component medical societies.

Fred W. Hahn, *Chairman*
Gerard M. Callaghan
Linda Fisher
Joseph A. Kahn
John K. Layle
M. H. Choudhury
Stanley S. Peterson
Howard H. Roberts
Thomas H. Hendren
Nicholas J. Colosi
Edward J. Twin
Charles H. Cozean
Frederick L. Thompson
Arturo C. Montes

REPORT OF THE COMMISSION ON CONTINUING EDUCATION AND HEALTH MANPOWER

The members of the Commission reviewed the critiques of the 124th Annual Convention held at the Hyatt Regency Hotel in Kansas City on April 1-4, 1982. Comments received from the specialties complimented the facilities utilized during this Annual Convention.

The Commission members discussed a mechanism to generate a renewed interest in specialty activities sponsored in conjunction with the MSMA Annual Convention. It was suggested that each specialty forward a letter to its membership encouraging attendance and advising them of the various activities during the annual Convention. To achieve this objective, the Commission recommended that the MSMA sponsor a second plenary program on Saturday that would be of interest to all physicians in Missouri and also recommended that publicity on the 1983 Annual Convention should be initiated earlier to encourage attendance of MSMA members.

After considerable discussion on the possibility of splitting the House of Delegates and the continuing medical education programs at the MSMA Annual Convention into separate meetings, it was recommended that the present format be continued.

The Commission members identified a need for developing a Speaker's Bureau for the State of Missouri. This Bureau would serve as a clearing house for physicians and topics that would be available to county medical societies, institutions and organizations in the state. This resource would be available for distribution within the state and, also, would serve as a resource for out-of-state organizations seeking faculty for their educational activities.

The activities of the Division of Health regarding a central clearing house for physician's placement in Missouri were reviewed. The Commission recommended that the MSMA supports the efforts of the Division of Health, however, maintaining the ongoing efforts of the MSMA in the placement of physicians in Missouri.

Suggestions for topics and speakers for the 1983 Opening General Session were discussed. The MSMA staff is to initiate contact with the suggested speakers as to their availability for the Opening General Session.

The Commission urged the MSMA Program Committee to continue its efforts in requesting approval of prescribed credits for members of the American Academy of Family Physicians.

William D. Bradshaw, *Chairman*
James J. Mongan
Robert H. Ramsey
J. Michael Conoyer
Hiremathada Jayanandaiah
George D. Comfort
Larry E. Benson
Ronald T. Hill
Christopher H. Jung
Wilbur A. Mullarky
Walter C. Dandridge, Jr.
W. Wayne Boydston
H. Neal Grannemann
George X. Trimble
Raymond O. Frederick

PROTOCOL FOR THE MISSOURI STATE MEDICAL ASSOCIATION TO RECOGNIZE INSTITUTIONS AND ORGANIZATIONS AS SPONSORS FOR CONTINUING MEDICAL EDUCATION ACTIVITIES

The Missouri State Medical Association has established an accreditation program under the auspices of the Accreditation Council for Continuing Medical Education. The purpose of such a program is "to promote, develop and encourage the development of principles, policies and standards for continuing medical education."

The MSMA will accredit institutions and other intrastate organizations that sponsor CME activities on a regular and recurring basis and whose participants are primarily local physicians. The MSMA may delegate this authority, but the final responsibility resides with the MSMA.

Reasonable state-to-state uniformity in accreditation of continuing medical education providers is necessary for several reasons:

1. The physician attending a CME activity presented by an accredited sponsor of continuing medical education, wherever offered, should be assured that he will be receiving an educational program of good quality.
2. Continuing medical education presented by an accredited sponsor, wherever obtained, should be recognized for credit by local and national societies which require continuing medical education for membership purposes.
3. Continuing medical education presented by an accredited sponsor, wherever obtained, should be recognized for credit in the physician's home state for licensure purposes where applicable.
4. State medical society credibility with legislatures and other lay bodies will be enhanced.

The following seven Essentials comprise the criteria or standards by which eligible sponsors of continuing medical education are evaluated in order to determine their qualification for accreditation by the Missouri State Medical Association.

THE ESSENTIALS

Essential #1

The sponsor shall have a written statement of its continuing medical education mission, formally approved by its governing body. The mission statement shall:

1. Describe the goals of the overall CME program in a concise manner.
2. Indicate the scope of the CME effort.
3. Outline the characteristics of the potential participants.
4. Describe the general types of activities and services provided.

Essential #2

The sponsor shall have established procedures for identifying and analyzing continuing medical educational needs and interests of prospective participants. The sponsor shall:

1. Document the processes used to identify CME needs, including data sources that go beyond the sponsor's own perception of needs.
2. State the overall needs identified by the above processes and indicate how this assessment is used in planning educational activities.

Essential #3

The sponsor shall have explicit objectives for each CME activity. The sponsor shall:

1. State the educational need(s) that the individual activity addresses.
2. Indicate the physicians for whom the activity is designed.
3. List any special background requirements of the prospective participants.
4. Highlight the instructional content and/or expected learning outcomes in terms of knowledge, skills, and/or attitudes.
5. Make these objectives known to prospective participants.

Essential #4

The sponsor shall design and implement educational activities consistent in content and method with the stated objectives. The sponsor shall:

1. Design and implement educational activities responsive to the characteristics of prospective participants, such as, knowledge levels, professional experience, and preferred learning styles.
2. Document use of systematic planning procedures.
3. Make educational content and methods known to prospective participants.

Essential #5

The sponsor shall evaluate the effectiveness of its overall continuing medical education program and component activities and use this information in its CME planning. The sponsor shall:

1. Periodically review the extent to which the sponsor's CME mission is being achieved by its educational activities.
2. Show that these evaluations assess:
   a. the extent to which educational objectives are being met.
   b. the quality of the instructional process.
   c. participant's perception of enhanced professional effectiveness.
3. Use evaluation methods that are appropriate and consistent in scope with the educational activity.
4. Demonstrate that evaluation data are used in planning future CME activities.

Essential #6

The sponsor shall provide evidence that management procedures and other necessary resources are available and effectively used to fulfill its continuing medical education mission. The sponsor shall:

1. Document an organizational structure for CME and its administration, designating an entity responsible for CME and delineating its authority.
2. Identify responsible individuals who will maintain continuity of administration.
3. Describe an internal review and control procedure, including budgetary practices, to ensure effective utilization of resources in fulfilling the CME mission.
4. Provide a budget for the overall CME program and its major components.
5. Utilize competent faculty.
6. Provide appropriate facilities for CME programs.
7. Have mechanisms to record and, when authorized by the participating physician, to verify participation.

Essential #7

The sponsor shall accept responsibility that the Essentials are met by educational activities that it jointly sponsors with non-accredited entities. The sponsor shall:

1. Provide evidence that it participates integrally in the planning and implementation of each jointly sponsored CME activity.
2. Conduct an evaluation of each jointly sponsored CME activity.

To obtain additional information concerning the process that an institution must meet in order to become accredited as a sponsor for continuing medical education activities, please contact the Department of Continuing Medical Education, Missouri State Medical Association, P. O. Box 1028, Jefferson City, Missouri 65012.

REPORT OF THE COMMISSION ON MEDICAL-LEGAL AFFAIRS

The Conjoint Medical-Legal Committees of the Missouri State Medical Association, Missouri Association of Osteopathic Physicians and Surgeons and the Missouri Bar Association met on Jan. 8, 1983, in Columbia, Missouri. The members included six representatives of the MSMA, two representatives of the MBA and four representatives of the MAOPS. Staff from all three groups were in attendance.

While there was no pending legislation concerning professional liability at the time of the meeting, the committees noted trends that indicate another looming crisis. These include an increase in the number of claims filed and size of awards granted. The committees called upon each respective association to support actions to clarify circumstances under which punitive damages are awarded. As a result of Smith vs. Courter, where punitive damages were granted, these damages have been requested in other cases. Professional liability companies cannot offer coverage for punitive damages and, if damages are awarded, the burden would be on the physician personally.

Each committee brought up recent problems presented to them regarding the Interprofessional Code. Several incidents in St. Louis regarding the obtaining of medical records had not been resolved, including a pending lawsuit and a contempt of court citation. Each local society was asked to meet to speak to each of the parties and that steps be taken to ensure that the Code is followed as closely as possible. It was requested that the Code be reprinted and distributed widely to the respective members of each association.

Following adjournment of the conjoint meeting, the MSMA Commission on Medical-Legal Affairs held a meeting. Dr. Garth Russell reported that MOMEDICO is doing quite well, but there are concerns. There have been some trends, as reported in the conjoint meeting, of a crisis approaching. This has been responsible for actuaries recommending increases in premiums. MOMEDICO will be considering expanding in other insurance lines as a further service to physicians of Missouri.

The Commission reviewed the minutes of the Oct. 21, 1982 meeting of the Ad Hoc Committee to Study Code of Medical Ethics. The Commission recommended that the two ideas supported by the Ad Hoc Committee be expressed in a resolution to be presented to the House of Delegates in March, 1983. These ideas are to form a judicial council similar to the AMA Judicial Council and the development of a statement regarding the rights of the patient and the essentials of a good physician-patient relationship.

Garth S. Russell, *Chairman*
Philip R. Fogle
William J. Medlicott
David M. Reisler
Bernard Draper
John J. Krautmann
Edward F. Bare
George L. Hawkins, Jr.
Raymond Hartwig
Fred H. Thornton
Robert H. Lund
Richard Bower
Charles B. Wheeler
Ben I. Albano

REPORT OF THE COMMISSION ON INTERSPECIALTY MEDICINE

The Commission was asked to study the information provided on block grants and to establishing priority ranking of the various programs within each block grant rather than deterimining a funding allocation. Background information was provided on the Health Block Grant Programs. In August of 1981, Congress passed the Omnibus Budget Reconciliation Act that created three Health Block Grants — Maternal and Child Health, Preventive Health and Primary Care. Each of these blocks consolidated several existing categorical programs into a larger block of funds intended to provide more flexibility to states and localities in administering them.

The Commission recommended the following priorities for programs within the three block grants:

I. *Maternal and Child Health Block Grant.*
   1. Maternal and Child Health
   2. Crippled Children's Service
   3. Genetic Diseases
   4. Adolescent Health
   5. Sudden Infant Death Syndrome
   6. SSI (Supplemental Security Income)

II. *Preventive Health Block Grant.*
   1. Emergency Medical Services
   2. Rape Crisis
   3. Hypertension
   4. Water Fluoridation
   5. Rat Control
   6. Health Incentive
   7. Health Education/Risk Reduction

III. *Primary Care Block Alternatives for FY 83*. The Commission recommends Alternative #1. This Alternative stipulates that the Division of Health waive acceptance of the Primary Health Care Block. Funding in FY 83 would continue directly from the federal government to local entities without any involvement of the state.

Alternatives #2 and #3 stipulated that the Division accepts the grant for FY 83 but would require a state expense of $2,219,476.00.

The specialty representatives indicated that their specialties would again support the MSMA 125th Annual Convention on March 17-20. Specialty program topics and other related activities were to be forwarded to the MSMA office as determined.

The Commission was apprised of the relationship of the St. Louis Metropolitan Medical Society and CEMPROC regarding peer review activities.

The Commission supported the concept of a separate Department of Health. The bill that was introduced during the Second Session of the 82nd General Session failed to pass and it was anticipated that another bill calling for a separate Department of Health would be introduced in the 1983 session.

Two Resolutions were referred to this Commission — Resolution #7 and Resolution #20.

Resolution #7 — Model Program Using Tax Credits or Deductions to Physicians for Care of Indigent Patients.

Resolved, that the MSMA, through its Commissions and Committees, and in cooperation with state and federal governments, explore various options, including some form of tax credits and/or charitable deductions, to provide physician incentives to care of indigent patients.

RECOMMENDATIONS:

1. That MSMA contact the AMA to inquire about other state programs using tax credits or deductions as incentives for physicians to care for indigent patients.
2. Discuss with Missouri Senators and Representatives avenues that might be pursued at Federal levels.
3. To disseminate information pertaining to the tax deferred program.

Resolution #20 — Rehabilitation of Disabled Persons.

Resolved, that the Missouri State Medical Association seeks positive ways to encourage training and rehabilitation for disabled persons, and be it further

Resolved, that the Missouri State Medical Association explores ways to work with and through existing organizations to remove barriers, both physical in regard to buildings, sidewalks, street curbs, and steps, and emotional barriers such as discrimination in employment, in finding housing and other vocational and social activities.

RECOMMENDATION:

That the MSMA continues to work with organizations in the training and rehabilitation of disabled persons.

Thomas J. Cooper, *Chairman*
Michael S. Clarke
Donald L. Thurston
Otakar Machek
Thomas K. Mangelsdorf
Anthony A. Berni
Horace Thomas
Cyril Costello
John Goheen
Mark J. Brodkey
Arnold Dankner
Paul L. Friedman
Lewis C. Vollmar, Jr.
R. R. Hannas
Kenneth A. Buchwach
Arturo C. Montes
Charles Jobe
Gregory Starks
Nicholas J. Colosi

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Changes in the MSMA Constitution

The following constitutional amendments were proposed at the 1982 Annual Session and were approved by the Committee on Constitution and Bylaws.

In accordance with the Constitution, the changes were sent to each component medical society at least two months prior to the meeting and have been published in the Journal of the Association.

The changes relate to the following:

ARTICLE VI. SESSIONS AND MEETINGS
ARTICLE VII. OFFICERS
ARTICLE XI. AMENDMENTS

The majority of these changes relate to confusion over the words "meeting" and "session." As adopted by the House, the annual meeting of the Association will be termed the "Annual Convention" while the gatherings of the House of Delegates during the Annual Convention will be termed "Sessions."

The changes are quoted verbatim on page 372 under the reports of the Committee and on Constitution and Bylaws.

Changes in the MSMA Bylaws

The following Bylaws amendments were adopted by the 1983 House of Delegates at the 1983 Annual Convention.

In accordance with the Constitution and Bylaws, these changes were approved by a two-thirds vote of the delegates present after they had been properly submitted to the House of Delegates and had laid on the table for one day.

CHAPTER VIII. COMMITTEES AND COMMISSIONS

It was voted to eliminate the MSMA Commitee on Voluntary Health Agencies as a Standing Committee of the Missouri State Medical Association.

CHAPTER VIII. DUES AND ASSESSMENTS

(Bracketed words are deleted.)

Section 1. (b) An assessment of $10.00 per year on each active member of the Association shall be applicable for a three-year period beginning in [1981] 1984. The assessment shall be payable with the dues of the Association and the monies collected therefrom shall be remitted to the Missouri State Medical Foundation.

Section 1.(a) The Annual Dues of this Association shall be $125 which shall be applicable to each active member of the Association beginning in 1983 and shall be levied per capita on the active members of the component societies; physicians leaving training programs and entering practice for the first time shall be assessed dues of $62.50 for the first calendar year and shall be Active members; the per capita levy for junior members shall be $10.00 per year; [the per capita levy for] student members shall [be $5.00 per year] not be required to pay dues; honor members shall not be required to pay dues. Dues shall be payable on January 1 of the year which they are levied.

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In Memoriam

Whereas, there have been 63 deaths among members since the 1982 Annual Convention, and

Whereas, each of these members is missed as an individual as well as for his contributions to the practice of medicine and to the Missouri State Medical Association, and

Whereas, the loss of each member is felt by all members, as well as his loved ones and close associates and the patients he has served with dedication, be it

Resolved, that the House of Delegates will now pay personal tribute by standing for a moment of silence in memory of each of the 63 members we have lost and whose names will be recorded in the minutes of this Annual Session.

Weyerich, Leon F., Clayton
Clark, Kendall A., Fulton
McMillan, Thomas E., Prairie Village
Plumpe, William T., St. Louis
Grebel, Clement B., Grantwood Village
Kang, Jung W., Manchester
Matthews, Homer B., St. Louis
Freund, Samuel J., Clayton
Roper, Stanley, Ozark
Wieman, Harry K., Joplin
Magness, Guy N., St. Louis
McNeel, Lee A., Greenfield
Garner, Lynn M., Jefferson City
Manigo, Oliver Jr., St. Louis
Lischer, Carl E., St. Louis
Longnecker, Joe L., Joplin
Smith, J. Earl, St. Louis
Eklund, Alfred W., Pleasant Hill
Hollingsworth, Ray S., Clinton
McCaughan, John M., St. Louis
Emerson, Reynolds L., St. Louis
Stephens, LeRoy J., St. Louis
O'Brien, Harry F., Mexico
Senturia, Ben H., St. Louis
Acker, Harry L., St. Louis
Hartwig, John A., St. Louis
Barnes, Seth S., Cape Girardeau
Dzubay, Joseph J., St. Joseph
Miller, David V., Poplar Bluff
Moore, Harry G., St. Louis
Stockwell, Arthur L., Kansas City
Ritchie, Frances R., St. Louis
Haffner, Heinz E., St. Louis
O'Brien, Edward C., St. Louis
Eyermann, Henry W., Warrenton
Siceluff, Joseph G., Springfield
Simpson, Emerson L., Springfield
Forman, George, St. Joseph
Earp, Ralph K., Mexico
Gilliland, Charles E., Cameron
Waddle, Theodore L., Dexter
Grant, Samuel B., Clayton
Miller, Gerald L., Shawnee Mission, Kansas
Saladino, Anthony, Shawnee Mission, Kansas
Mueller, Robert, St. Louis
Wentzel, Louis R., Wichita, Kansas
Kulowski, Jacob, St. Joseph
Carroll, Grayson L., St. Louis
McKee, Oliver A., St. Louis
Davis, C. B., Oklahoma City, Oklahoma
Sparger, Charles, Doniphan
Schmidt, Edmund M., St. Louis
Sevastianos, A. E., St. Louis
Powers, Pierce W., St. Louis
Wood, Bennett R., St. Louis
Elmer, Charles E., Sikeston
Becker, Edward J., St. Louis
Baker, James M., Columbia
Rutledge, John F., Crystal City
Bales, Eugene L., Carrollton
Fitzgerald, William T., Jr., St. Louis
Strominger, Donald B., St. Louis
Peden, Joseph C., Sr., Chesterfield

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Resolutions

Resolution #1 — Year of the Unborn

(Introduced by Marion-Ralls-Shelby County Medical Society)

Resolved, that the MSMA designates 1983-1984 as the Year of the Unborn and, in so doing, lend its support to further research and education to promote and develop both active and preventive health measures to ensure the well being of both the mother and fetus.

(Resolution #1 was not adopted.)

Resolution #2 — Payment for Cognitive Services

(Introduced by the MSMA Council)

Resolved, that the Missouri State Medical Association recognizes that cognitive services are generally under-valued, and be it further

Resolved, that the MSMA through its Commission on Medical Economics works with certain national specialty organizations and all third party payors to eliminate the discrepancy between cognitive and procedural fees.

(Resolution #2 was adopted.)

Resolution #3 — Action Plan-MOMEDICO

(Introduced by the MSMA Council)

Resolved, that the specific objectives of the MSMA regarding MOMEDICO shall be to:

(1) Have the Association become manager and administrator of MOMEDICO.
(2) Use MOMEDICO as a recruitment vehicle for membership.
(3) Improve the professional liability climate for physicians in Missouri.
(4) Urge MOMEDICO to consider developing other forms of insurance.

(Resolution #3 was tabled until the 126th Annual Convention.)

Resolution #4 — Action Plan-Health Care for the Indigent

(Introduced by the MSMA Council)

Resolved, that the specific objectives of the MSMA concerning health care for the indigent shall be to:

(1) Provide care to patients who may be without care due to shifting of federal programs to states and from teaching hospitals to private hospitals because of lack of federal grants.
(2) Provide climate for health care of indigent patients unable to pay for care due to unemployment.
(3) Educate physicians on the new Medicaid reimbursement regulations and the need to accept Medicaid patients, and be it further

Resolved, that these objectives be reached by (a) disseminating information on medical reimbursement changes and the deferred compensation option, and (b) referring the issue of serving indigent patients to local societies for study and report back with a plan of action, and (c) studying innovative plans from other states.

(Resolution #4 was adopted.)

Resolution #5 — Extension of Missouri State Medical Foundation Assessment

(Introduced by the MSMA Council.)

Resolved, that the House of Delegates extends the $10 per year assessment on each member for support of the Missouri State Medical Foundation for an additional three years by adopting the following change in MSMA bylaws: *(bracketed word deleted.)*

"Chapter VIII, Section 1. (b) An assessment of $10.00 per year on each active member of the Association shall be applicable for a three-year period beginning in (1981) *1984*. The assessment shall be payable with the dues of the Association and the monies collected therefrom shall be remitted to the Missouri State Medical Foundation."

(Resolution #5 was adopted.)

Resolution #6 — Involvement in the Political Process

(Introduced by the MSMA Council)

Resolved, that local medical societies, with any needed assistance from the MSMA, inform their physician members of the names of their respective legislators, and be it further

Resolved, that MSMA members who have legislators for patients or who know or support legislators be identified so that they can be encouraged to become "Key Contacts," thereby increasing medicine's role in influencing actions taken by the state General Assembly on issues of importance to our patients and our profession.

Resolved, that since an effective Legislative "Key Contact" program is dependent on local involvement, the House of Delegates requests each Component Medical Society to annually submit a list of members who shall act as "Key Contacts" for the Legislators from that area.

(Resolution #6 was adopted as amended.)

Resolution #7 — Increased Membership

(Introduced by the MSMA Council)

Resolved, that the MSMA and local societies make known nonmembers to local society officers and MSMA Councilors to encourage solicitation, and be it further

Resolved, that the MSMA works with MOMEDICO to further develop and promote an insurance package to be used for recruitment purposes for active members and resident members, and be it further

Resolved, that the MSMA cooperates with local medical societies and the medical schools to present an informative program and membership solicitation at freshman orientation at the medical schools, and be it further

Resolved, that the MSMA President requests ideas from the Deans of Missouri medical schools on how to better attract and serve members from academic physicians, and be it further

Resolved, that the apparent deleterious effects of "direct" membership in the AMA be studied and, if substantiated, the Council submit a resolution to the AMA House of Delegates to repeal the "direct" AMA membership option.

(Resolution #7 was adopted.)

Resolution #8 — Elimination of Student Member Dues

(Introduced by the MSMA Council)

Resolved, that the Missouri State Medical Association eliminates the present $5 annual dues for medical students by making the following change in Chapter VIII of the Bylaws: *(bracketed words deleted, underlined words added)*

Section 1. (a). The Annual Dues of this Association shall be $125 which shall be applicable to each active member of the Association beginning in 1983 and shall be levied per capita on the active members of the component societies; physicians leaving training programs and entering practice for the first time shall be assessed dues of $62.50 for the first calendar year and shall be Active members; the per capita levy for junior members shall be $10.00 per year; (the per capita levy for) student members shall (be $5.00

(Continued on page 383)

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References:
1. Stone PH, Turi ZG, Muller JE Efficacy of nifedipine therapy for refractory angina pectoris *Am Heart J* 104 672-681, September 1982
2. Antman E, Muller J, Goldberg S, et al Nifedipine therapy for coronary-artery spasm Experience in 127 patients *N Engl J Med* 302 1269-1273, June 5, 1980

BRIEF SUMMARY
PROCARDIA® (nifedipine) **CAPSULES** For Oral Use

INDICATIONS AND USAGE: **I. Vasospastic Angina**: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria 1) classical pattern of angina at rest accompanied by ST segment elevation 2) angina or coronary artery spasm provoked by ergonovine or 3) angiographically demonstrated coronary artery spasm In those patients who have had angiography the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina provided that the above criteria are satisfied PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e g , where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and or adequate doses of beta blockers

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and or organic nitrates or who cannot tolerate those agents

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina but available information is not sufficient to predict with confidence the effects of concurrent treatment especially in patients with compromised left ventricular function or cardiac conduction abnormalities When introducing such concomitant therapy care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs (See Warnings)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA

WARNINGS: **Excessive Hypotension**: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated occasional patients have had excessive and poorly tolerated hypotension These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment and may be more likely in patients on concomitant beta blockers

Severe hypotension and or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker but the possibility that it may occur with PROCARDIA alone with low doses of fentanyl in other surgical procedures or with other narcotic analgesics cannot be ruled out In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated the physician should be aware of these potential problems and if the patient's condition permits sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery

Increased Angina: Occasional patients have developed well documented increased frequency duration or severity of angina on starting PROCARDIA or at the time of dosage increases The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate or from increased demand resulting from increased heart rate alone

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina probably related to increased sensitivity to catecholamines Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation It is important to taper beta blockers if possible rather than stopping them abruptly before beginning PROCARDIA

Congestive Heart Failure: Rarely patients, usually receiving a beta blocker have developed heart failure after beginning PROCARDIA Patients with tight aortic stenosis may be at greater risk for such an event

PRECAUTIONS: **General**: **Hypotension**: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested Close observation is especially recommended for patients already taking medications that are known to lower blood pressure (See Warnings)

Peripheral edema: Mild to moderate peripheral edema typically associated with arterial vasodilation and not due to left ventricular dysfunction occurs in about one in ten patients treated with PROCARDIA This edema occurs primarily in the lower extremities and usually responds to diuretic therapy With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction

Drug interactions: Beta-adrenergic blocking agents (See Indications and Warnings) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina

Long-acting nitrates PROCARDIA may be safely co-administered with nitrates but there have been no controlled studies to evaluate the antianginal effectiveness of this combination

Digitalis Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers The average increase was 45% Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization

Carcinogenesis mutagenesis, impairment of fertility When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose

Pregnancy Category C Please see full prescribing information with reference to teratogenicity in rats embryotoxicity in rats mice and rabbits, and abnormalities in monkeys

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness peripheral edema nausea weakness, headache and flushing each occurring in about 10% of patients transient hypotension in about 5%, palpitation in about 2% and syncope in about 0 5% Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication Additionally the following have been reported muscle cramps nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision difficulties in balance dermatitis pruritus urticaria fever, sweating chills and sexual difficulties Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain possibly due to associated hypotension

In addition, more serious adverse events were observed not readily distinguishable from the natural history of the disease in these patients It remains possible however, that some or many of these events were drug related Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2% Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0 5% of patients

Laboratory Tests: Rare mild to moderate transient elevations of enzymes such as alkaline phosphatase, CPK LDH SGOT, and SGPT have been noted and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy The relationship to PROCARDIA therapy is uncertain These laboratory abnormalities have rarely been associated with clinical symptoms Cholestasis, possibly due to PROCARDIA therapy has been reported twice in the extensive world literature

HOW SUPPLIED: Each orange soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66) 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41) The capsules should be protected from light and moisture and stored at controlled room temperature 59 to 77 F (15 to 25 C) in the manufacturer's original container

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"My daily routine consisted of sitting in my chair trying to stay alive."

"My doctor switched me to PROCARDIA[*] as soon as it became available. The change in my condition is remarkable."

"I shop, cook and can plant flowers again."

"I have been able to do volunteer work...and feel needed and useful once again."

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks,[1] taking fewer nitroglycerin tablets,[2] doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).

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2) Angina where the clinical presentation suggests a possible vasospastic component.
3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA brief summary on adjoining page

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J-9043-4 July 1981

per year) not be required to pay dues; honor members shall not be required to pay dues. Dues shall be payable on January I of the year for which they are levied.

(Resolution #8 was adopted.)

Resolution #9 — Long Range Planning Seminar

(Introduced by the MSMA Council)

Resolved, that the Council annually evaluates the progress of the actions developed at the past planning seminar with a report to this House of Delegates, and be it further

Resolved, that the MSMA schedules a long-range planning seminar, similar to the one recently held, at least once every five years.

(Resolution #9 was adopted.)

Resolution #10 — Peer Review

(Introduced by the MSMA Council)

Resolved, that the MSMA joins with the MAOPS in the formation of a new corporation to seek to contract with the Department of Health and Human Services to:

1. Review the professional activities of health care practitioners and providers in the state to determine if health care services provided to Medicare beneficiaries are reasonable and medically necessary, of professional quality, and delivered in the appropriate medical setting;
2. Determine, in consultation with the Secretary of the Department of Health and Human Services, the types and kinds of cases to review in order to most effectively carry out the purposes of the contract; and
3. Determine whether payment will be made under Medicare for services provided, and be it further

Resolved, that should the MSMA Council determine that the conditions of the contract offered by HHS are detrimental to the Medicare patients of Missouri or to Missouri physicians, that the Council be empowered to withdraw MSMA participation from a proposed contract.

(The above Substitute Resolution #10 was adopted in lieu of Resolution #10 and Resolution #18.)

Resolution #11 — Electroconvulsive Therapy

(Introduced by Greene County Medical Society)

Resolved, that the Missouri State Medical Association supports legislative changes in Section 630.130 RSMo Supp. 1982 deleting the requirement that legal guardians obtain court orders authorizing electroconvulsive therapy for patients that have been declared incompetent.

(Resolution #11 was adopted.)

Resolution #12 — Education of Public Regarding Dioxin

(Introduced by Berry Ivy, M.D., Greene County Medical Society)

Resolved, that the MSMA institutes an active campaign of public information to get accurate information on dioxin before the public in an attempt to prevent irrational reaction and possibly unjustified public fright and to prevent dissemination of possible erroneous information until such time as epidemiological studies have been completed and urges the AMA to do the same, and be it further

Resolved, that the AMA be requested to update its 1981 Scientific Report on Dioxin now.

(The above Substitute Resolution #12 was adopted.)

Resolution #13 — Delay in Patient Compensation by Medicare and Medicaid Agencies

(Introduced by James M. Stokes, M.D., St. Louis Metropolitan Medical Society)

Resolved, that the MSMA through its Commission on Medical Economics enters into a thorough investigation of payment practices by fiscal intermediaries and state and federal agencies and solutions be proposed and implemented to insure prompt payment, and be it further

Resolved, that unreasonable delays in payment be compensated at the same interest charged by the IRS for failure to make prompt payment.

(The above Substitute Resolution #13 was adopted.)

Resolution #14 — Support Midwest Interstate Compact on Low-Level Radioactive Waste

(Introduced by Barry A. Siegel, M.D., St. Louis Metropolitan Medical Society)

Resolved, the Missouri State Medical Association supports entry of the State of Missouri into the Midwest Interstate Compact on Low-Level Radioactive Waste and urges the General Assembly and the Governor to act with due speed to enact legislation to accomplish this objective.

(The above Substitute Resolution #14 was adopted.)

Resolution #15 — Regulation of Cigarette Smoking in Public Areas

(Introduced by St. Louis University Student Medical Society)

Resolved, that the MSMA actively supports and/or works for the introduction of legislation for the prohibition of cigarette smoking from public indoor areas.

(Resolution #15 was adopted.)

Resolution #16 — Medical School Deans as Delegates-at-Large

(Introduced by the MSMA Council)

Resolved, that the Bylaws be changed to read: *(underlined words added)*

> "Chapter III, Section 2 (f) all Past-Presidents of the Association, the Speaker and Vice-Speaker and the Dean of each medical school located in Missouri who are members of the Missouri State Medical Association shall serve as Delegates-at-Large."

and be it further

Resolved, that the Constitution be changed to read: *(underlined words added)*

> "Article IV. The House of Delegates shall be the legislative body of this Association and shall consist of delegates elected by the component societies as well as all Past-Presidents of the Association, the Speaker and Vice-Speaker and the Dean of each medical school located in Missouri who are members of the Missouri State Medical Association, who shall serve as Delegates-at-Large. It shall elect a Speaker and Vice-Speaker from its body. Its Secretary shall be the Secretary of the Missouri State Medical Association."

(The above Substitute Resolution #16 was approved. According to the MSMA Constitution and Bylaws, however, it will require a final vote at the 126th Annual Convention in 1984.)

Resolution #17 — Establish a MSMA Judicial Council

(Introduced by the MSMA Commission on Medical-Legal Affairs)

Resolved, that the Association establish a Judicial Council similar to the AMA Judicial Council. This Council would have original jurisdiction in all questions involving Missouri State Medical Association membership, all controversies arising under the Constitution and Bylaws and under the rules of conduct as outlined in the Bylaws and controversies between two or more component societies or their members. The Judicial Council shall be the judicial authority of the Missouri State Medical Association and its decisions shall be final.

The Judicial Council shall consist of five active members. The Judicial Council shall be elected by the House of Delegates upon nomination by the President. The first five members shall be elected on a staggered term basis: one for one year; one for two years; one for three years; one for four years; one for five years. At each annual convention, the term of one member expires. Any vacancy occurring shall be filled at the next meeting of the House of Delegates. A new member shall be elected by the House of Delegates, on nomination by the President, for the remainder of the unexpired term. The Judicial Council shall also investigate general ethical conditions and matters pertaining to the relations of physicians to one another or to the public and make recommendations to the House of Delegates or the component societies, and be it further

Resolved, that the following changes in the Missouri State Medical Association Constitution be placed before this House of Delegates for final vote at the next Annual Convention: *(bracketed words deleted, underlined words added)*

Article V. The Council shall be the executive body of this Association when the House of Delegates is not in session. [It shall be the judicial body of the Association when matters are referred to it for decision by the Association, by component societies or by individual members thereof.] It shall consist of the President, President-Elect, Immediate Past President, Secretary, Treasurer and the duly elected Councilors from each Councilor District and a duly elected medical student Councilor. A majority of voting members of the Council shall constitute a quorum.

Article VI. The Judicial Council shall be the judicial body of the Association. It shall consist of five active members nominated by the President and elected by the House of Delegates.

In the current Constitution, the following changes would be required:

Article VI would become Article VII
Article VII would become Article VIII
Article VIII would become Article IX
Article IX would become Article X
Article X would become Article XI
and be it further,

Resolved, that if the above Constitution change is adopted, the following changes will be needed in the Missouri State Medical Association Bylaws to permit the establishment of a Judicial Council: *(bracketed words deleted, underlined words added)*

[Chapter VI. Sec. 4. The district Councilors shall select one of their number who, together with two members of component societies within the Councilor District selected by the District Councilors, shall serve as a Board to hear and by a majority vote adjudicate any questions involving the right and standing of members, either in relation to other members or to component societies or to the Association, and all matters of discipline affecting the conduct of members of component societies, or other matters.

The Council shall be the appellate Board of Censors of the Association. It shall hear and adjudicate all matters on appeal from the decision of the Councilor Board; it shall hear and adjudicate matters of an ethical nature brought before the House of Delegates or a general meeting and these matters shall be referred to the Council without discussion. On original decision or appellate determination, its decision shall be final unless appealed to the then convened meeting or the next meeting of the House of Delegates.]

Section 5 through 12 of Chapter VI would then be renumbered accordingly.

Chapter XI. Sec. 3. Any member who may feel aggrieved by the action of the component society in suspending or expelling him/her shall have the right to appeal to the [Council] Judicial Council whose decision shall be final. A component society shall at all times be permitted to appeal or refer questions involving membership to the [Council] Judicial Council of the State Association for final determination.

Chapter XI. Sec. 4. In hearing appeals, the [Council] Judicial Council may admit oral or written evidence or both as in its judgement will most fairly present the facts.

Chapter XIII. Sec. 1. The Judicial Council shall have original jurisdiction in all questions involving Missouri State Medical Association membership, all controversies arising under the Constitution and Bylaws and under the rules of conduct as outlined in the Bylaws and controversies between two or more component societies or their members. The Judicial Council shall be the judicial authority of the Missouri State Medical Association and its decisions shall be final. The Judicial Council shall also investigate general ethical conditions and matters pertaining to the relations of physicians to one another or to the public and make recommendations to the House of Delegates or the component societies.

Sec. 2. The Judicial Council shall be composed of five members elected to five-year terms. Nominees shall be submitted by the President for election by the House of Delegates. Any vacancy occurring on the Judicial Council shall be filled by nomination of the President and election by the House at its next Convention for the remainder of the unexpired term. The first five members of the Judicial Council shall be elected on a staggered basis: one for one year; one for two years; one for three years; one for four years; one for five years.

Sec. 3. The Judicial Council shall select a Chairman and Vice Chairman and it may adopt such rules and regulations as it deems necessary and appropriate for the conduct of its affairs subject to approval by the MSMA Council.

Chapter XIII of the current Bylaws would then be numbered Chapter XIV.

(The Speaker announced that Resolution #17 as amended would lay on the table until the 1984 Annual Convention as required by the MSMA Constitution and Bylaws.)

Resolution #18 — Opposition to Federal Peer Review Program

(Introduced by Marcus D. McCorcle, M.D.,
Greene County Medical Society)

(Refer to Resolution #10 for action on Resolution #18.)

Resolution #19 — Data Collection Through the "Peer Review Improvement Act of 1982," Sections 141 Through 150 of the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA)

(Introduced by St. Louis Metropolitan Medical Society)

Resolved, that the MSMA seeks to require compatible peer review of the medical services offered in public and private medical facilities and in all governmental health care facilities, and be it further

Resolved, that the Missouri State Medical Association submits this resolution to the American Medical Association House of Delegates to be considered at the AMA Annual Meeting in June, 1983.

(The above Substitute Resolution #19 was adopted as amended.)

Resolution #20 — Insurance Assignments

(Introduced by St. Charles-Lincoln County Medical Society)

Resolved, that the Missouri State Medical Association attempts to have introduced and passed by the Missouri Legislature a law making insurance companies legally bound to honor assignments.

(Resolution #20 was adopted.)

Resolution #21 — MSMA Committee/Commission Appointments

(Introduced by Cape Girardeau County Area Medical Society)

Resolved, that the president of the MSMA obtains the opinions and advice of the officers of the various component medical societies when such appointments are being made.

(Resolution #21 was not adopted.)

Resolution #22 — Physician Surplus

(Introduced by E. Rule Olson, M.D.,
Greene County Medical Society)

Resolved, to request the Project to conduct, or to have conducted, studies to affirm or refute these precepts, and be it further

Resolved, to instruct the project to conduct, or to have conducted, studies to calculate the costs of the various components of institutions of medical education categorized into areas of research, public welfare, and the preparation of the individual student for increased personal economic potential, and be it further

Resolved, to recommend that the Project includes a plan to establish the policy of personal payment for the previously calculated cost of medical education, using, if advantageous, loans from private funds at floating prime rate, amortized over thirty (30) years, protected by life insurance, and guaranteed by the recipients waiver of right to bankruptcy, and further guaranteed by making regular repayment of the loan a lawful condition of licensure to practice medicine, and be it further

Resolved, to recommend this formula for the payment of postgraduate education to the other professions, and be it further

Resolved, to recommend stopping immediately the licensure of all foreign medical graduates, be they United States citizens or foreign citizens, and be it further

Resolved, to recommend that the Project encourages the return of graduating American trained foreign nationals to underserviced areas of the world by prohibiting medical licensure and practice in the United States.

(Resolution #22 was not adopted.)

Resolution #23 — JCAH Accreditation Manual for Hospitals — Draft Revisions

(Introduced by)

Resolved, that the MSMA is in favor of continued physician involvement in quality assurance and credentialing programs within the hospitals and that our AMA Delegates be instructed to support such activity, and be it further

Resolved, that the MSMA calls upon the Missouri State Legislature to pass a law such as the Ohio State Legislature stating a hospital is an institution where M.D.s and D.O.s admit and care for patients.

(Substitute Resolution #23 was adopted as amended.)

Resolution #24 — Joint Commission on Accreditation of Hospitals

(Introduced by)

Resolved, that the Missouri State Medical Association informs the American Medical Association that the JCAH's special medical record standard for psychiatry is unacceptable to psychiatry and must be reevaluated and corrected in an acceptable fashion by the Joint Commission on Accreditation of Hospitals and be it further

Resolved, that the American Psychiatric Association be requested to inform the appropriate federal agencies, and other interested parties, of the millions of dollars of unnecessary expenses these standards are costing.

(Substitute Resolution #24 was adopted as amended.)

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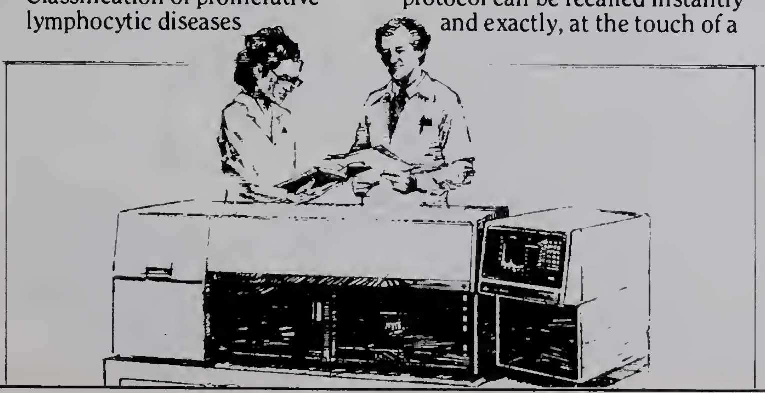

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Richardson, William R., Union
Rother, Paul, St. Charles

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Critchlow, Tom, Mexico
Cunningham, Milamari, Columbia
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Dickerson, William J., Osage Beach
Dix, Jay, Columbia
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Ekern, H. Peter, Mexico
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Fotopoulos, C. K., Osage Beach
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Fulks, Richard B., California
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Garrett, Glen H., Columbia
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Griffin, William T., Columbia
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Harper, Marion, Columbia
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Huq, Md N., Mexico
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Scherr, David, Jefferson City
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Shull, G. Donald, Jefferson City
Soha, Joseph, Columbia
Stauffer, H. B., Jefferson City
Stewart, W. B., Columbia
Stuart, Byron M., Boonville
Summers, Joseph S., Jefferson City
Tanner, R. H., Jefferson City
Taylor, Steve, Mexico
Thomas, Horace E., Columbia
Thomas, Robert M., Columbia
Vandiver, Dale, Lake Ozark
Washburn, J. Loren, Versailles
Watts, Byron E., Jefferson City
Werth, Joe, Jefferson City
White, Nelson P. H., Jefferson City
Wilbers, Ray, Mexico
Willard, Robert R., Columbia
Wilson, George, Columbia
Winn, George W., Boonville

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Hansen, A. L., Butler
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Knipschild, B. F., Marshall
LaHue, W. C., Lexington
Magee, Robert L., Eldorado Springs
McCorkle, E. Lee, Marshll
Meyer, Jerry L., Concordia
Moore, Candice A., Nevada
Moore, M. Ted, Nevada
Papreck, K. T., Marshall
Pearse, Roy W., Jr., Forsyth
Raynor, Richard, Marshall
Reid, James A., Bella Vista, Ark.
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Wetzel, Gus, Clinton

Seventh Councilor District — 80

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Bickley, James, Kansas City
Bidnick, Terrance A., Greenwood
Bruner, Robert E., Kansas City
Buchanan, Barbara, Kansas City
Buhler, Victor B., Kansas City
Caldwell, John K., Kansas City
Caughron, Michael R., Kansas City
Chandler, Robert A., Kansas City
Clark, I. H., Kansas City
Cotton, Thomas R., Kansas City
Engleman, Reinhold, Kansas City
Engelmann, Calvin, Kansas City
Evans, Lawrence L., Kansas City
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Fortin, David, Kansas City
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Gibbons, Robert, Kansas City
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Griffith, John A., Kansas City
Hahn, Fred, Kansas City
Hall, John C., Kansas City
Hanson, E. J., Jr., Kansas City
Hardy, J. W., Kansas City
Harless, Morris, Galena
Helling, Thomas S., Kansas City
Hoech, George P., Jr., Kansas City
Hopkins, James P., Kansas City
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Hutson, Bruce, Kansas City
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Pardo, Manuel P., Prairie Village, Kan.
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Slickman, Robert A., Kansas City
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Weiner, Lowell M., Kansas City
Weinstein, Charles, Kansas City
Wurster, W. Joel, Kansas City
Youmans, Ronald A., Kansas City
Zoller, David D., Kansas City

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Frogge, Jim, Joplin
Gardner, Joe A., Joplin
Gardner, Joseph W., Kimberling City
Gaston, Sam, Joplin
Gentry, Michael, Springfield
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Griffin, O. A., Buffalo
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Hellam, Duane C., Springfield
Hilton, Paul E., Joplin
Huewe, Douglas A., Springfield
Huffman, T. L., Branson
Ivy, Berry, Springfield
Janeczko, Gregory F., Springfield
Johnson, W. B., II, Springfield
Judge, Mark A., Joplin
Key, James S., Springfield
Krause, Maurice D., Springfield
LaFerriere, Keith, Springfield
LeFevre, Philip J., Springfield
Lorenc, Ernest, Springfield
Lurie, Harold, Springfield
McAlhany, Howard, Springfield
McCraw, Doyle, Bolivar
Menchetti, Don, Springfield
Moore, DeArmond, Springfield
Olson, E. Rule, Springfield
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Shelton, Wayne, Springfield
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Whitlock, C. C., Springfield
Willcoxon, Robert L., Joplin
Winsky, Arlen D., Springfield
Wooldridge, Wilfred E., Springfield
Yancey, Daniel L., Springfield

Ninth Councilor District — 12

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Choudhury, M. H., Mansfield
DeBoard, James, Rolla
Feind, Earl, Rolla
Mayuga, Laureano, Cabool
Moore, Michael R., West Plains
Paskon, Seth, Salem
Smith, Claude F., Willow Springs
Tang, T. C., Salem
Wall, Joe A., Houston
Wiles, Jack, West Plains

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Dettmer, Robert F., Ironton
Eller, Gordon W., Cape Girardeau
Engelhardt, R. C., Poplar Bluff
Glenn, T. J., Cape Girardeau
Goodard, Jerry, Cape Girardeau
Hansbrough, E. T., Poplar Bluff
Heeb, Max, Sikeston
Jung, Christopher H., Cape Girardeau
Jung, J. Marshall, Cape Girardeau
Kasten, Melvin C., Cape Girardeau
Laatsch, Robert H., Poplar Bluff
Ladyman, George H., Poplar Bluff
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McDonald, E. F., Jackson
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Seabaugh, William O. L., Cape Girardeau
Terry, J. W., Cape Girardeau
Turner, Kirby L., Poplar Bluff
Weeks, G. R., Cape Girardeau

University of Missouri-Columbia

Student Medical Society — 6

Clark, Robert, Columbia
DeSpain, John, Columbia
Harwood, Timothy, Columbia
Kletzker, Robert, Columbia
Schmidt, Mary Colette, Columbia
Taylor, Mark, Columbia

University of Missouri-Kansas City

Student Medical Society — 3

Funderburk, Michael D., Kansas Citv
Reardon, Jane D., N. Kansas City
Reardon, Tom, Kansas City

St. Louis University

Student Medical Society — 3

Kavanaugh, Arthur, St. Louis
Otten, Joseph V., Ballwin
Wood, Ladonna, St. Louis

Guest Physicians — 58

Adelman, Samuel, El Paso, Tex.
Becker, Larry E., Albuquerque, N.M.
Blankenhorn, Glenn, Columbia
Bond, Michael, Memphis, Tenn.
Bone, Roger C., Little Rock, Ark.
Brickel, Niel I., Des Peres
Burson, Marilyn, Liberty
Byers, Jonell, Kansas City, Kan.
Caputo, Raymond V., Atlanta, Ga.
Choudhury, M. Asghar, Leawood, Kan.
Crouch, Michael, Columbia
Curran, Kevin E., Leawood, Kan.
Cvetkovich, Lorna, Olathe, Kan.
Dunagin, W., Columbia
Dutt, Philip L., Denver, Colo.
Garney, William, St. Louis
Geltman, Edward M., Olivette
Golitz, Loren E., Denver, Colo.
Hansen, Ronald C., Tucson, Ariz.
Harris, Hugh G., Springfield
Harter, Herschel, St. Louis
Haydon, Richard, Columbia
Issac, Anita M., Topeka, Kan.
Isern, Henry, Columbia
Jaffe, Allan S., Olivette, Tex.
Jones, Ronald C., Dallas, Tex.
Kashani, S., Columbia
Kestenbaum, Thelda, Westwood Hills, Kan.
Khan, Jemshed, Columbia
Krause, Charles J., Ann Arbor, Mich.
Lee, Peter C., Granite City, Ill.
Love, D. M., Farmington
McCraw, Norfolk, Va.
Martin, Richard H., Columbia
Matar, Mounir, Chesterfield,
Meighan, Spence, Portland, Ore.
Mueller, H. Arnold, Dallas, Tex.
Parra, Miguel D., Kansas City, Kan.
Recio-Pasia, Norma, St. Louis

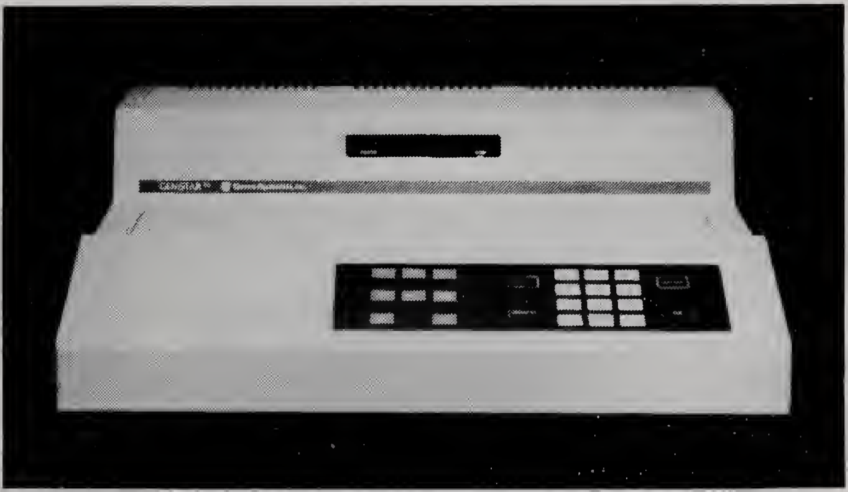
Pitts, Ronald L., Shawnee Mission, Kan.
Poulos, Eugenia T., Carbondale, Ill.
Poulos, John, Carbondale, Ill.
Preskorn, Sheldon H., Kansas City, Kan.
Redford, J. B., Shawnee Mission, Kan.
Rogers, Harrison L., Jr., Atlanta, Ga.
Seabaugh, Janice L., Columbia
Segal, Robert J., Quincy, Ill.
Shelly, Clyde, Portsmouth, Va.
Shields, Justin L., Kansas City
Simmons, Richard L., Minneapolis, Minn.
Stearns, F. W., Tulsa, Okla.
Sundaram, S., St. Louis
Sunwoo, In Sook, St. Louis
Sunwoo, Young C., St. Louis
Swann, James, Waynesville
VanTilburg, Jay S., Spartanburg, S.C.
Webb, Robert W., Alton, Ill.
Whitley, Douglas M., Overland Park, Kan.

There were 511 members, 58 guest physicians, 136 exhibitors, 139 MSMA Auxiliary members, 146 guests and 21 staff members. Total registration was 1,011.

Sixth Benefit Auction to Be Held in 1984!

The MSMA Auxiliary is proud to announce that plans are in progress for the MSMF/AMA-ERF Benefit Auction VI to be held at the 1984 Annual Convention in St. Louis. Co-sponsored by the MSMA and Auxiliary, Benefit Auction V this year produced more than $10,000, boosting the five-year total to more than $43,000 for the two important student and medical school assistance funds. All members are urged to begin thinking in terms of their auction donations for 1984.

Volunteer Auctioneer Clay Chroeder of Sedalia works hard for highest offer for a beautiful antique lamp.



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Missouri State Medical Foundation

Annual Meeting
Tan-Tar-A Resort, Osage Beach
Friday, March 18, 1983

The Annual Meeting of the Missouri State Medical Foundation was called to order by Dr. Miles C. Whitener, president.

The minutes of the 1982 Annual Meeting and the auditor's report ending Dec. 31, 1982 were approved as published in MISSOURI MEDICINE.

Dr. Carl C. Pearman, chairman of the nominating committee, recommended that Dr. Frederick W. Hahn be reappointed to serve a five-year term. The ex-officio member of the Board will be Dr. Ronald A. Youmans, president of the Missouri State Medical Association. The nominating committee report was unanimously approved.

The Board of Trustees expressed their appreciation to the MSMA House of Delegates for approving the extension of the $10.00 per year assessment. This assessment is for a three-year period.

Having no further business, the Annual Meeting was adjourned.

Board of Trustees
Tan-Tar-A Resort, Osage Beach
Friday, March 18, 1983

The meeting of the Board of Trustees of the Missouri State Medical Foundation was called to order by Dr. Miles C. Whitener, president.

The nominating committee presented the following slate of officers who were elected by acclamation:

President — Miles C. Whitener, M.D., St. Louis County.
Vice-President — Mary E. S. Case, M.D., St. Louis.
Secretary-Treasurer — Robert H. Tanner, M.D., Jefferson City.
Mr. Ron Ellison was reappointed Assistant Secretary.

Other members of the Board of Trustees are Dr. Max S. Franklin, St. Louis; Dr. Gary A. Dyer, St. Joseph; Dr. Carl C. Pearman, Joplin; Dr. Albert D. Cross, Trenton; Dr. Larry P. Courter, Jefferson City; Dr. Frederick W. Hahn, Kansas City; and Dr. John P. Sargent, Sikeston.

Dr. Whitener announced that contributions received in 1982 totalled $7,873.00.

There being no further business, the meeting was adjourned.

In Memoriam

Arnold G. Klein, M.D., 14164 Trailtop Dr., Chesterfield 63017; graduate of Washington University, 1927; member of St. Louis Metropolitan Medical Society; aged 82; died April 22, 1983.

Charles A. Schmidt, M.D., Highway 50 Gerald Medical Center, Gerald 63037; graduate of St. Louis University, 1934; member of Franklin-Gasconade-Warren County Medical Society; aged 78; died April 28, 1983.

Quinton Tarver, M.D., 919 S. Jackson, Box 647, Kennett 63857; graduate of the University of Arkansas, 1939; member of Dunklin County Medical Society; aged 74; died May 11, 1983.

Victor B. Kieffer, M.D., 1306 W. Adams, Kirkwood 63122; graduate of Washington University, 1946; member of St. Louis Metropolitan Medical Society; aged 62; died May 13, 1983.

Howard H. Hamlin, M.D., 6443 Nieman Rd., Shawnee Mission, Kan. 66203; graduate of the University of Colorado, 1941; member of Jackson County Medical Society; aged 71; died May 24, 1983.

Philip S. Luedde, M.D., P. O. Box 863, Port Salerno, Fla. 33492; graduate of St. Louis University, 1934; member of St. Louis Metropolitan Medical Society; aged 73; died May 27, 1983.

New Members

Iftekhar Ahmed, M.D., 2900 Baltimore, Suite 600, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Ahmed is a native of India, received his preliminary education at Hislop College and his M.D. degree at Nagpur Medical College in 1968. He specialized in neurology.

Steven J. Bander, M.D., 946 D. Marshall, Webster Groves 63119, has become a member of St. Louis Metropolitan Medical Society. Dr. Bander is a native of St. Louis, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in internal medicine.

Robert J. Bradshaw, M.D., 1218 D. Mesa Verde La., Manchester 63011, has become a member of St. Louis Metropolitan Medical Society. Dr. Bradshaw is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1980. He specializes in pediatrics.

John A. Clark, M.D., 3734 Warwick, Apt. 301, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Clark is a native of Garden City, Kan., received his preliminary education at the University of Colorado and his M.D. degree at the University of Colorado in 1979. He specializes in internal medicine.

Edward Ellerbeck, M.D., 5153 Nall, Mission, Kan. 66205, has become a member of Jackson County Medical Society. Dr. Ellerbeck is a native of Troy, received his baccalaureate and M.D. degree from the University of Missouri-Kansas City in 1982. He specializes in internal medicine.

Mark A. Faron, M.D., 645 S. New Ballas, Apt. 2B, St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Faron is a native of St. Louis, received his preliminary education at the University of Notre Dame and his M.D. degree at St. Louis University in 1981. He specializes in internal medicine.

Daniel B. Gould, M.D., 621 S. New Ballas Rd., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Gould is a native of Paterson, N.J., received his preliminary education at Dartmouth College and his M.D. degree at Jefferson Medical College in 1971. He specializes in anesthesiology, internal medicine and nephrology.

Richard B. Hartin, Jr., M.D., 816 Streiff La., Ballwin 63011, has become a member of St. Louis Metropolitan Medical Society. Dr. Hartin is a native of Dallas, Tex., received his preliminary education at North Texas State University and his M.D. degree at Universidad Autonoma De Guadalajara in 1980. He specializes in anesthesiology.

Greg L. Ichtertz, M.D., 6150 Oakland Ave., St. Louis 63139, has become a member of St. Louis Metropolitan Medical Society. Dr. Ichtertz is a native of Evansville, Ind., received his preliminary education at California State University and his M.D. degree at the University of Santo Tomas in 1981. He specializes in internal medicine.

Robert M. Kennedy, M.D., 3210 Magnolia Ave., St. Louis 63118, has become a member of St. Louis Metropolitan Medical Society. Dr. Kennedy is a native of Leesburg, Va., received his preliminary education at Georgia Institute of Technology and his M.D. degree at the Medical College of Georgia in 1983. He specializes in pediatrics.

Roger L. Liliedahl, M.D., Suite 600, 6700 Troost Ave., Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Liliedahl is a native of Wahoo, Neb., received his preliminary education at the University of Nebraska and his M.D. degree at the University of Nebraska in 1978. He specializes in anesthesiology.

Richard A. Morrison, M.D., 17525 Medical Center Park, Independence 64057, has become a member of Jackson County Medical Society. Dr. Morrison is a native of Kansas City, received his preliminary education at William Jewell College and his M.D. at the University of Kansas in 1960. He specializes in therapeutic radiology.

John J. Mueller, M.D., 7300 Christopher Dr., St. Louis 63129, has become a member of St. Louis Metropolitan Medical Society. Dr. Mueller is a native of Chicago, Ill., received his preliminary education at Washington University and his M.D. degree at St. Louis University in 1960. He specializes in pathology.

George R. Pieper, M.D., 13045 Tesson Ferry Rd., St. Louis 63128, has become a member of St. Louis Metropolitan Medical Society. Dr. Pieper is a native of La Crosse, Wis., received his preliminary education at Illinois College and his M.D. degree at the University of Utah in 1955. He specializes in internal medicine.

Rebecca C. Ramirez-Inawat, M.D., 232 S. Woods Mill Rd., Chesterfield 63017, has become a member of St. Louis Metropolitan Medical Society. Dr. Ramirez-Inawat is a native of Manila, received her preliminary education at the University of Santo Tomas and her M.D. degree at the University of Santo Tomas in 1972. She specializes in anesthesiology.

Cesar Reyes, M.D., 6150 Oakland Ave., St. Louis 63139, has become a member of St. Louis Metropolitan Medical Society. Dr. Reyes is a native of Mexico, received his preliminary education at National Autonomous University of Mexico and his M.D. degree at National Autonomous University of Mexico in 1973. He specializes in obstetrics and gynecology.

Jim F. Sharp, M.D., 3315 McIntosh, Joplin 64801, has become a member of Jasper County Medical Society. Dr. Sharp is a native of Harlan, Ky., received his preliminary education at the University of Tennessee and his M.D. degree at the University of Tennessee in 1974. He specializes in family practice.

Patricia A. Stokes, M.D., 12628 Woody Grove, St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Stokes is a native of Culver City, Calif., received her preliminary education at the University of California and her M.D. degree at St. Louis University in 1978. She specializes in radiology.

Thomas R. Stubbs, M.D., 709 Kentucky, West Plains 65775, has become a member of South Central Counties Medical Society. Dr. Stubbs is a native of St. Joseph, received his preliminary education at Missouri Western College and his M.D. degree at the University of Missouri-Columbia in 1978. He specializes in general surgery.

New Student Members

University of Missouri-Kansas City

Gayle Ackerman
Karen A. Beis
Keith Bernstein
Shellie J. Bills
Sherry Branum
Alan C. Braverman
Margaret Brookens
Kent Burk
Fred M. Caldwell
Gary L. Carter
Dawna Clarkston
Cliff Cokingtin
Susan M. Curran
Lisa Darton
Traci L. David
Shari Dobkin
Linda Drown
Suzanne Ducate
Caren L. Eisenstein
Mary Beth Esswein
Jim Finnell
Roger S. Gammon
David Glaser
James Greene
Satchi J. Hiremath
Jim Ho
Fawzia Khan
Kassim A. Khan

University of Missouri-Kansas City

Mary E. Kussman
Robert R. Levin
Dee Anna Main
Martha J. Margreiter
Tim J. Martin
Matthew Matava
Molly McCormick
Matt McNabney
David K. Munson
Nancy J. Niemann
Nini Maria Plurad
Louis Portugal
Suzette Raymundo
Alan Schaeffer
Douglas A. Schaller
Jan Schultz
Eric Schwartzkopf
Chad P. Shaffer
Hui Hua Shu
Kenny Sonnenschein
Katherine J. Southall
Tony Spaedy
Ronald A. Squires
Alexandra J. Strong
Lisa Susman
Michael Temporal
R. Dent Underwood
Julie A. Vernon
Dave Weber

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INSTRUCTOR IN PATHOLOGY — Wanted for instructing and supervising Osteopathic medical students in the classroom and in the laboratory; interpreting tissue specimens from surgical patients and the cytological aspects of cell specimens; performing autopsies; and other general duties related to the hospital pathological laboratory. Requires six years' college, including M.D. Degree and three years' training as a Resident of Pathology. Forty hours per week, $37,000 per year. Send resumes to Ms. Connie Souden, STATE OF MISSOURI, Division of Employment Security, 421 East Dunklin, Jefferson City, MO 65104. Reference Number: 144530.

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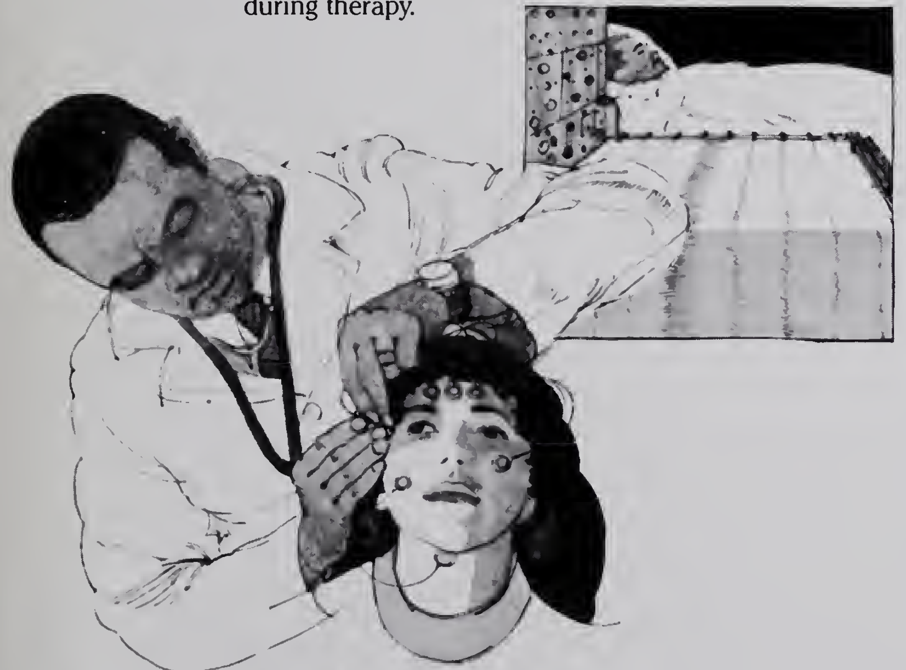

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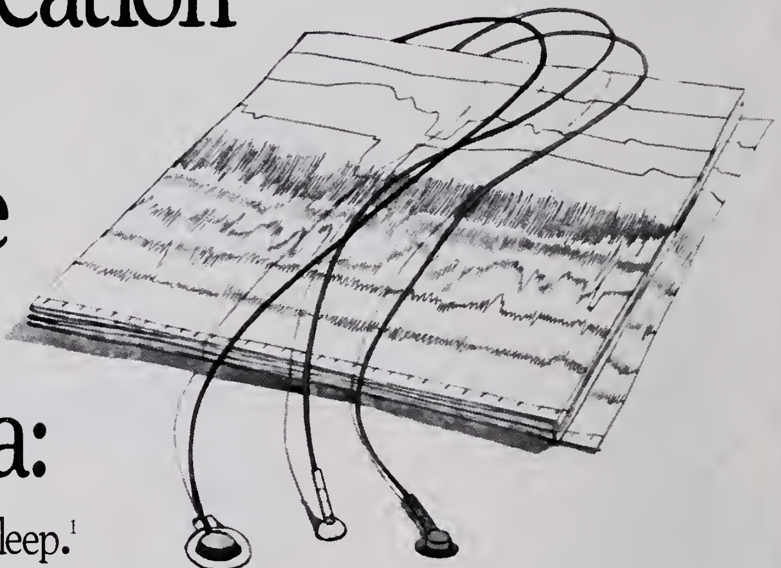

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Missouri Medicine

Vol. 80, No. 8 (ISSN 0026-6620) August, 1983

Annual Directory

Missouri
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1983-1984 MEMBERSHIP ROSTER

126th
Annual Convention
March 29-April 1, 1984
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missouri state medical association

August 1983

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- **Cost Containment** — Some of the information offered to your patients in the brochure, "You and Your Physician — Partners in Reducing Health Care Costs," includes why health care costs are rising, what physicians are doing to contain these costs and how patients can help keep their own health care costs down. These brochures are available at 10 cents each.

- **Physician Public Relations** — This free packet of information outlines three specific steps physicians can take to improve communications with patients. The packet includes a sample of a patient survey and a patient information brochure.

- **Medical Messages** — Each month, the MSMA Communications Department produces two medical columns on a wide range of topics such as breast cancer, AIDS, caffeine, Herpes Simplex, high blood pressure and asthma. These illustrated articles, on coated print paper, are available to physicians at an annual cost of $12. Each subscribing physician will receive two articles a month which he/she may display or reproduce and distribute to patients.

Tax Benefits

Medicaid MDs May Defer Income

The Department of Social Services recently announced that doctors receiving Medicaid reimbursements may now have payroll deductions deferred to the Missouri State Deferred Compensation program. General American has the state contract for Medicaid disbursements.

The earliest effective deduction date is August, 1983.

The Missouri State Medical Association literally has been deluged with requests from all over the state. While the new situations will provide tax benefits for all doctors concerned, there are certain restrictions and problems that can and will arise.

- Deferred compensations deferrals by Medicaid doctors can only be made under individual provider numbers. A doctor without an individual number can obtain one by notifying his/her payroll clerk with the Department of Social Services in Jefferson City.
- Members of partnerships do not qualify to defer partnership income derived from Medicaid.
- Members of corporations do qualify, if their portion of corporate income from Medicaid can be segregated to their individual provider numbers. Most, if not all, corporations will receive Medicaid income under a corporate number. Before a deferral request can be accepted, it must be cleared by and through the corporation. The reason for this is that there could be an effect on the structure of other tax benefits currently being realized by the corporation.

- Medicaid payments are disbursed twice monthly, with the second payment being the highest dollar amount. This is the check from which the deferral will be taken. If a particular Medicaid payment is not sufficient to cover the deferral request, no deduction will be taken at all! A doctor with an insurance option may, then, find his insurance cancelled. (However, the Public Employees Benefit Services Corporation is working on ways to rectify this.) This probably won't happen where Medicaid income is relatively high, but it definitely will affect a physician receiving sporadic monthly payments.

- Use a deduction date of the 20th of the month.

MD Distribution

Missouri Physician Supply Increases

Missouri has benefitted from a 17.1 percent increase in its supply of primary care physicians since 1976, according to a study published by the Missouri Center for Health Statistics. The state had 3,585 primary care physicians in 1981, which compares with 3,062 five years earlier.

The study, "Missouri's Primary Care Physicians 1976-1981," analyzes the changes which occurred in the distribution of primary care physicians in the state between 1976 and 1981.

Relatively few changes occurred in the overall distribution of primary care physicians between these years. Major metropolitan areas continued to have the highest percentage. Encouragingly, however, 14 of the state's 20 regional planning commission areas (RPCs) experienced net gains of between 1.7 and 54.1 percent in their supplies of active primary care physicians from 1976 to 1981.

More importantly, 91 of Missouri's 114 counties were able to attract primary care physicians during this period of time.

Membership Workshop

Techniques for developing membership in the medical federation — at the local, state and national levels — was the topic of a two-day meeting conducted July 14-15 in Chicago. Representatives of the MSMA, the Jackson County Medical Society and the St. Louis Metropolitan Medical Society attended.

Some of the matters covered at the meeting included the importance of attracting student and resident members, using surveys to determine members' priorities, examination of the many "barriers" which discourage society membership, and an update on computer usage by medical societies.

Further information on these subjects is available by contacting the MSMA Headquarters.

Nominations Being Sought

The Missouri State Medical Association is seeking nominations for its third annual MSMA Citizenship and Community Service Award. The award is designed to honor a civic-minded physician who has contributed significantly to his/her community's betterment.

The award will be presented at the 1984 MSMA Annual Convention, March 29-April 1, at the St. Louis Breckenridge Concourse.

Nominations for the award should include a curriculum vitae and a one or two page statement about the nominee's qualifications for the award.

All nominations must be received by January 9, 1984. Submit nominations to MSMA Headquarters, P.O. Box 1028, Jefferson City, MO 65102.

Medical Liability Claims Increase

Medical liability trends remain discouraging, according to a Board of Trustees report on the American Medical Assurance Company.

The frequency of claims is increasing annually in most areas. Moreover, the average payment for awards and settlements continues to increase at an alarming rate. Nearly half of the physician-owned professional liability insurance companies increased premiums last year, and several companies already have established significant increases during 1983. For example, the maximum annual premium for $1 million coverage in New York has reached $46,000.

Meetings

Commissions Forward Reports

Several of the standing committees and commissions of MSMA have met recently and their reports have been forwarded to the MSMA Council for further actions.

The Council will meet August 26-27 in Columbia.

The Commission on Medical Economics, Third Party Medicine and Governmental Relations met on July 16 to receive reports from representatives of the Medicaid Program and Blue Cross/Blue Shield of St. Louis. The Commission also reviewed several resolutions or reports referred to the Commission by the MSMA Council.

Representatives from Medicaid reported that the first enrollees in the deferred compensation program will have funds withheld from their checks on August 20. The establishment of this benefit had been a goal of the Commission for several years.

The representative also described the upcoming Medicaid Fairs which will be held around the state to acquaint current and prospective providers with the Medicaid program including claims processing, role of provider relations, future policy issues and rationale for covered services.

The Ad Hoc Committee-126th Annual Convention and **the Commission on Continuing Education and Health Manpower** met on May 28 and recommended two significant changes that would go into effect at the 1983 Annual Convention, March 29-April 1. Both changes are subject to MSMA Council approval.

It was recommended that the MSMA replace the 90-minute Opening General Session with concurrent workshops on issues of importance to Missouri physicians.

In addition, the Committee recommended that in lieu of the Saturday night Presidents Banquet an installation ceremony be held, followed by a reception honoring the incoming president, past-presidents, and 50-year physicians.

The Commission on Public Affairs met on July 9 and proposed several recommendations for the Council's approval.

In discussing student and resident membership in MSMA, the Commission members noted that students and residents are more likely to be involved if they are given a contributing role in the Association's policy-making process. The members recommended that the MSMA Bylaws be amended to allow one student and resident member on each of the Association's standing Committees and Commissions.

Other recommendations of the Commission include creating a medical records brochure for patient's use; producing an office checklist pamphlet for new physicians and a public relations brochure for MSMA members; creating a slide presentation and promotional poster series to aid in recruiting students and residents; and preparation of a series of resource and position papers on various aspects of the medical profession to aid MSMA physicians in preparing speeches for civic and community groups.

If you have any specific comments which you would like the Council to consider in regards to any of these recommendations, please contact either your district Councilor or the MSMA Headquarters.

Insurance

Improved Coverages Available

Forrest T. Jones & Co. has announced the following revisions in coverages available to MSMA members:

- **Term Life Insurance Plan:** Members and employees under age 60 may apply for amounts from $25,000 to $250,000. Spouse coverage, one-half amount of member or employee up to $100,000 maximum. Dependent children may be insured for $2,500.
- **Accidental Death and Dismemberment:** Members and employees under age 60 are guaranteed 24-hour coverage from $25,000 to $100,000. Spouse, unless legally separated, may have up to the same amount as member.
- **Major Medical Plan:** Lifetime maximum of $500,000. Choice of $200, $500, or $1,000 deductible. Coverage available to members, employees and dependents.

All three of these plans are Mutual Life Insurance Company of New York. The Accidental Death and Dismemberment policy formerly was contingent on buying the Term Life policy, but is now independent and sold separately.

Before and After

Before delivery, **Anusol® Ointment*** rapidly, temporarily relieves the itching, burning, and pain of hemorrhoids of pregnancy and other anorectal disorders. Used concomitantly, **Tucks® Pads** add cooling, soothing comfort to tender anorectal tissues. **Tucks** also serve as a hygienic rectal wipe, gently cleansing away potentially irritating fecal residue.

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After delivery, **Anusol Ointment** and **Tucks Pads** work well together to maintain their complementary relief of postpartum hemorrhoids.

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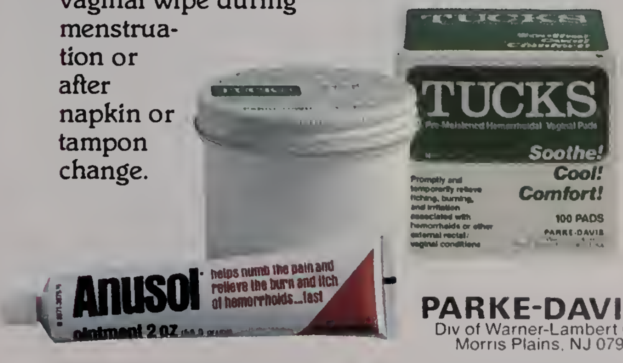
In nonpregnant women, Tucks are a useful vaginal wipe during menstruation or after napkin or tampon change.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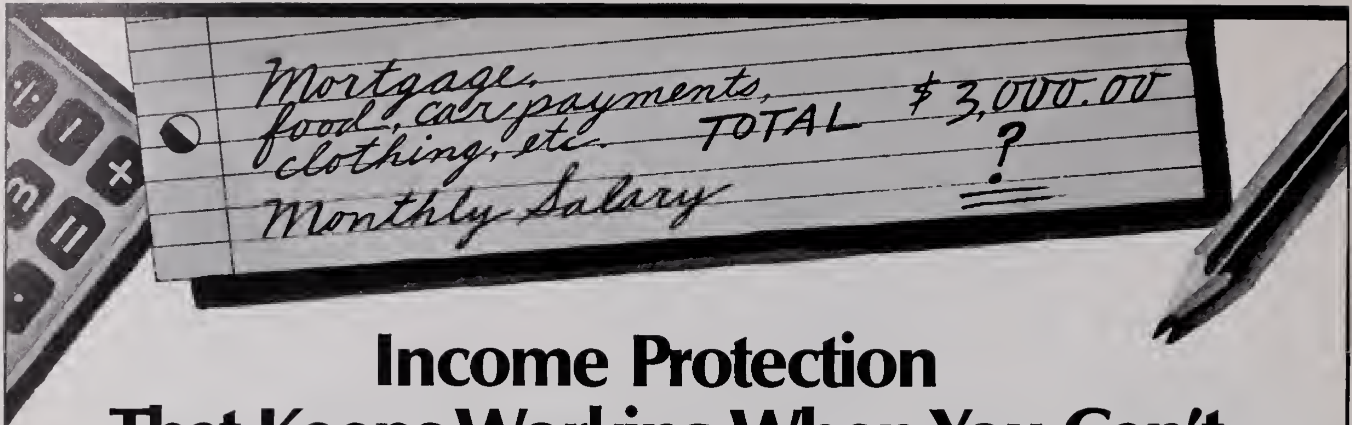

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An added complication... in the treatment of bacterial bronchitis*

Increasing incidence of ampicillin resistance in Haemophilus influenzae
Ampicillin Resistant Haemophilus influenzae
H. influenzae
S pneumoniae

Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor

Pulvules®, 250 and 500 mg

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and S *pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile* Other causes of colitis should be ruled out

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e g , pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[061782R]

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*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either S *pneumoniae* or H *influenzae* [8]

Note Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285

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How to Use This Roster

This Roster issue includes two lists of the members of the Missouri State Medical Association as of July 1, 1983.

The **ALPHABETICAL ROSTER** on **PAGE 415** includes each member's component society name and code number. A list of component society code numbers appear on page 403.

In the **COMPONENT SOCIETY ROSTER** beginning on **PAGE 453**, the primary specialty appears after the member's name and address. **Please note that phone numbers are now included.** See page 413 for explanation of specialty codes.

MSMA AUXILIARY

The **Roster for the Missouri State Medical Association Auxiliary** is published in the *Missouri Auxiligram*. For information, please contact the MSMA Headquarters office.

For other departments, please refer to the table of contents above.

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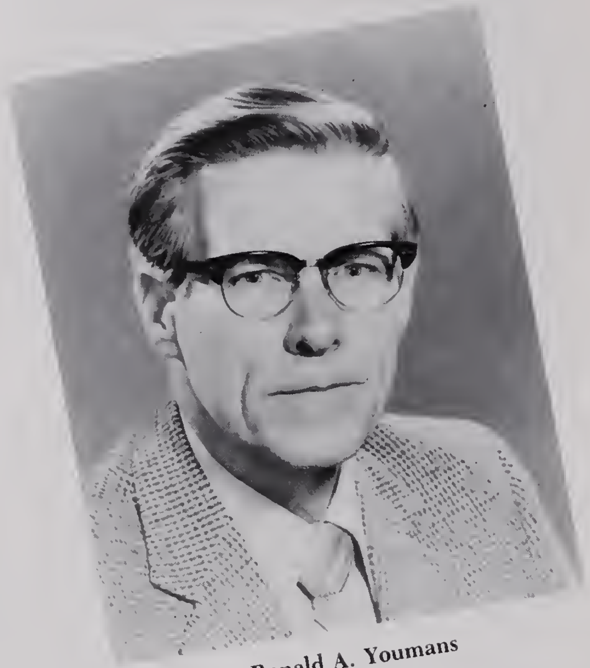
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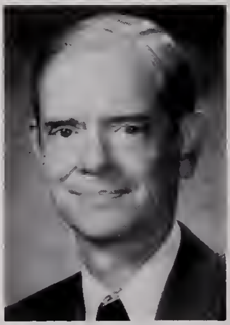
Missouri State Medical Association


Jordan W. Burkey
Editor

Purpose of Association

THE PURPOSE of this Association is the promotion of the science and art of medicine, the protection of public health, the betterment of the medical profession, the organization of its membership for negotiation and collective bargaining purposes, and, by uniting with similar organizations in other states and territories of the United States, to form the American Medical Association.

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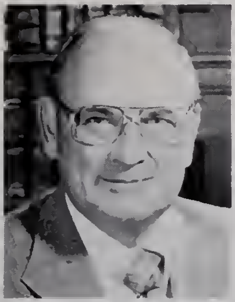
Immediate Past-President


Robert C. Fairchild
Vice-President

John H. Walterscheid
Vice-President

Virgil E. Jeans
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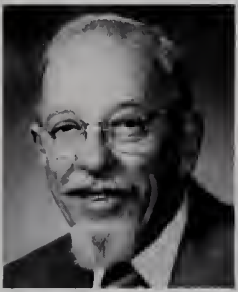
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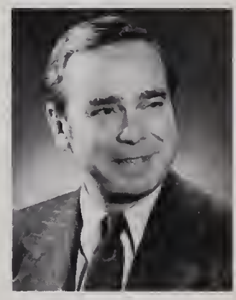
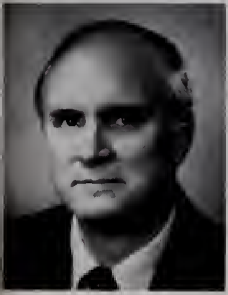

Andrew McCanse
Kansas City

Alternate Delegates

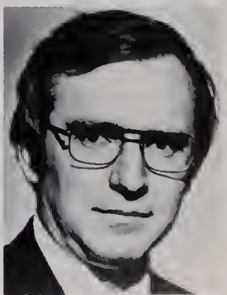

Vernon Balster
St. Louis

Martin L. Crow
Kansas City

Marvin A. Singleton
Joplin

Richard V. Bradley
St. Louis

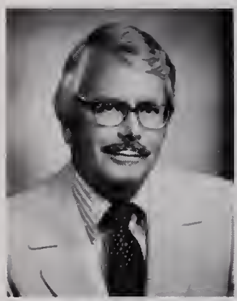
Robert R. MacDonald, Jr.
St. Louis


Larry Piepergerdes
Kansas City

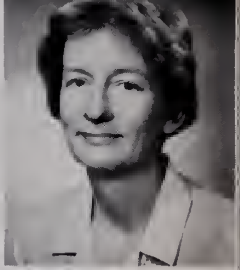
The

Richard C. Hedges
First District

Robert V. Tompson
Second District


Thomas J. Cooper
Third District

Richard H. Fallon
Third District


Carol F. Williams
Third District

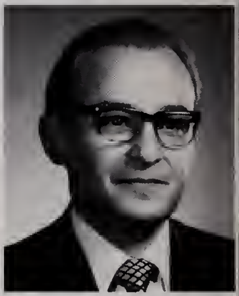
Alan L. Braun
Fifth District

H. Peter Ekern
Fifth District
(Vice-Chairman)

A. J. Campbell
Sixth District

James P. Hopkins
Seventh District

Donald D. McIntosh
Seventh District


Milton B. Ozar
Seventh District

Vice-

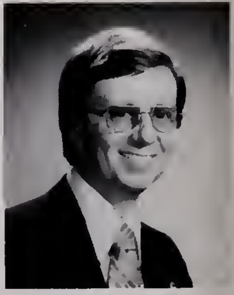
Gary A. Dyer
First District

Carl R. Kruse
Second District

David Wilkinson
Third District

Paul H. Rother
Fourth District

Kenneth L. Rall
Fifth District


Jerry Meyer
Sixth District

Council

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Third District

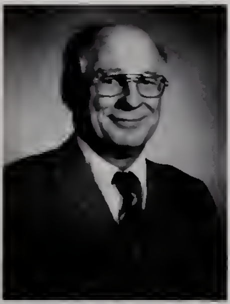
J. Otto Lottes
Third District

Frederick D.
Peterson
Third District

Robert R. MacDonald,
Jr.
Third District

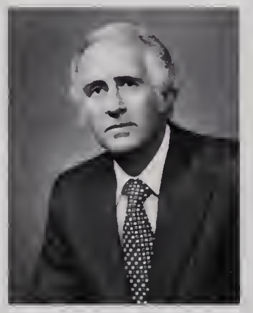
William R. Richardson
Fourth District

Larry G.
Piepergerdes
Seventh District


Walter A. German
Eighth District
(Chairman)

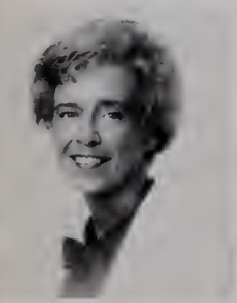
Marvin A. Singleton
Eighth District

Jack Wiles
Ninth District


George H. Ladyman
Tenth District

Tom Reardon
Student Councilor

Councilors


Dorothy D. Reister
Seventh District

Francis M. Corry
Eighth District

O. Martin Hasek
Ninth District

Melvin C. Kasten
Tenth District

Mary Colette
Schmidt
Student
Vice-Councilor

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1983-1984

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Executive Committee — Ronald A. Youmans, Kansas City, *Chairman;* James M. Stokes, Chesterfield; Berry Ivy, Springfield; Jay Meyer, St. Louis; Walter A. German, Springfield; H. Peter Ekern, Mexico (1984).

Impaired Physician — William I. Stryker, St. Louis, *Chairman* (1985); Philip J. Le Fevre, Springfield (1984); John J. O'Hearne, Kansas City (1984); David L. Ohlms, St. Louis (1986); G. R. Reinhardt, Kansas City (1986). Advisory Members — John P. Carmody, St. Louis; Joseph B. Kendis, St. Louis; Hugh C. Bartlett, Rolla; Warford B. Johnson, II, Springfield (1984).

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Publication — Jordan W. Burkey, Springfield, *Chairman;* Bruce Stoliar, Florissant; Donald E. Menchetti, Springfield; Jerry W. Templer, Columbia; John K. Layle, Kansas City; Earl R. Schultz, St. Louis (1984).

STANDING COMMISSIONS

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Medical-Legal Affairs — Garth S. Russell, Columbia, *Chairman* (1966); John J. Krautmann, Jefferson City (1984); Edward F. Bare, Tarkio (1984); George L. Hawkins, Jr., St. Louis (1984); Raymond Hartwig, Kansas City (1984); Fred H. Thornton, Sikeston (1984); Philip R. Fogle, Springfield (1985); William J. Medlicott, Kansas City (1984); David M. Reisler, Chesterfield (1985); Bernard Draper, Rolla (1985); Leonard Davis, Mexico (1985); Frank Ostapowicz, St. Louis (1986); Allen L. Spitler, Cape Girardeau (1986); Ben I. Albano, Crystal City (1986); John P. Roberts, Kirkwood (1986).

Public Affairs — Elias M. Throne, Kansas City, *Chairman* (1986); Jean A. Chapman, Cape Girardeau (1984); Victoria Gunn, Jefferson City (1984); Chris K. Fotopoulos, Osage Beach (1984); A. J. Campbell, Sedalia (1984); Carl Myers, Platte City (1985); Barry J. Bass, Salem (1985); Bruce Stoliar, Florissant (1985); George Bohigian, St. Louis (1985); Dorothy D. Reister, Shawnee Mission, Ks. (1985); Carl C. Pearman, Joplin (1986); Jimmy D. Heath, East Prairie (1986); Joseph J. Lauber, St. Louis (1986); Richard K. Danis, St. Louis (1986).

Component Societies in Affiliation With the Missouri State Medical Association

COUNTY	DISTRICT	PRESIDENT	ADDRESS	SECRETARY	ADDRESS
Andrew	1.	J. L. Villahermosa	Savannah	Warren C. Baker	Savannah
Audrain	5.	Raymond Wilbers	Mexico	Mary Ellen Mullen	Mexico
Barton	8.	Alvin R. Cain	Lamar	Enrique Piedra	Lamar
Boone	5.	Gilbert Ross	Columbia	William Bradshaw	Columbia
Buchanan	1.	Eugene G. Wolanski	St. Joseph	James A. Murphy	St. Joseph
Butler-Wayne-Ripley-Carter	10.	James L. Faries	Williamsville	Chul Kim	Poplar Bluff
Callaway	5.	Michael Frederich	Fulton	Richard Osbourn	Fulton
Cape Girardeau County Area Medical Society, Inc.	10.	James W. Terry	Cape Girardeau	Olin B. Mauldin	Cape Girardeau
Chariton-Macon-Monroe-Randolph	2.	K. A. Ahad	Moberly	Bruce Bade	Moberly
Clay-Platte	1.	David E. Wilson	Kansas City	Bruce A. Kauk	N. Kansas City
Clinton	1.	J. H. Sweiger	Plattsburg	L. A. Ozenberger	Plattsburg
Cole	5.	Charles Landsbaum	Jefferson City	James E. Allan	Jefferson City
Cooper	5.	Daikichi Hata	Boonville	E. T. Humphreys	Boonville
Dallas-Hickory-Polk-Dade	8.	Bill Carnell	Buffalo	John C. Listerman	Bolivar
Dunklin	10.	Randall P. Kuntze	Kennett	Joe A. Zimmerman	Kennett
Franklin-Gasconade-Warren	4.	David Brunworth	Washington	Donald Baker	Union
Grand River Medical Society (Caldwell-Carroll-Livingston-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb)	1.	Jin S. Yoon	Chillicothe	John R. Dixon	Brookfield
Greene	8.	Carl N. Mentgen	Springfield	Gary K. Walker	Springfield
Henry	6.	Richard King	Clinton	Kenneth F. Scott	Clinton
Howard	5.	Maurice Leech	Fayette	Roger Hofmeister	Fayette
Jackson	7.	R. S. Long	Kansas City	Dorothy Reister	Shawnee Mission, Ks.
Jasper	8.	James Frogge	Joplin	Carl C. Pearman	Joplin
Jefferson	10.	Narendar K. Datta	Crystal City	Martha Reed	De Soto
Johnson	6.	Jerry J. Ragland	Warrensburg	Robert L. Winders	Warrensburg
Laclede	9.	Dennis Hite	Lebanon	Gary Courter	Lebanon
Lafayette-Ray	6.	Jordan Kelling	Waverly	Bill LaHue	Lexington
Lake of the Ozarks Medical Society (Camden-Miller-Morgan)	5.	Ted Garrison	Camdenton	Melvin R. Hayden	Camdenton
Lewis-Clark-Scotland	2.				
Marion-Ralls-Shelby	2.	John Walterscheid	Hannibal	H. Jayanandaiah	Hannibal
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries)	9.	Hugh C. Bartlett	Rolla	Neal Grannemann	Rolla
Mineral Area Medical Society (St. Francois-Iron-Madison-Washington-Reynolds-Bollinger)	10.	Victor Bentinganan	Fredericktown	Gary J. Parker	Farmington
Moniteau	5.	Kenyon S. Latham	California	L. M. Gallager	California
Montgomery	5.	Samuel Byland	Wellsville	Samuel Byland	Wellsville
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2.	Francis Tarvydas	Edina	Milton T. English	Kirksville
Northwest Missouri Medical Society (Nodaway-Holt-Atchison-Gentry-Worth)	1.	James K. Hunter	Fairfax	Walter E. Dean	Maryville
Ozarks Medical Society (Barry-Lawrence-Christian-Newton-McDonald)	8.	Larry Halverson	Aurora	Joseph Bizek	Aurora
Pemiscot	10.	Andrew E. Painter	Portageville	James G. Hazel, Jr.	Hayti
Perry-Ste. Genevieve	10.	D. Limpiphiphatn	Perryville	E. Limpiphiphatn	Perryville
Pettis	6.	A. J. Campbell	Sedalia	Abraham Azan	Sedalia
Pike	2.	Lawrence Stuerman	Louisiana	John W. Middleton	Louisiana
St. Charles-Lincoln	4.	Keim L. Baird	St. Charles	Gene P. Roxas	St. Charles
St. Louis Metropolitan Medical Society	3.	Kenneth R. Smith, Jr.	St. Louis	Bruce Stoliar	Florissant
Saline	6.	Phillip Monroe	Marshall	K. Thomas Papreck	Marshall
SEMO County Medical Society (Stoddard-New Madrid-Mississippi-Scott)	10.	William C. Shell	Sikeston	Donald Cento	Sikeston
South Central (Howell-Oregon-Texas-Wright-Douglas-Ozark)	9.	Bruce Preston	West Plains	Michael Moore	West Plains
Tri-Lakes Medical Society (Stone-Taney)	8.	Thomas L. Huffman	Branson	Jerald D. Chaffin	Branson
Webster	8.	T. M. MacDonnell	Marshfield	Joseph Byers	Fordland
West Central Missouri Medical Society (Bates-Cass-Cedar-St. Clair-Vernon)	6.	Warren Lovinger	Nevada	Frederick Thompson	Nevada
St. Louis University Student Medical Society		Mr. Arthur Cavanaugh	St. Louis	Mr. Jim Finley	Rock Hill
University of Mo.-Columbia Student Medical Society		Ms. Mary Colette Schmidt	Columbia	Mr. Michael Boland	Columbia
University of Mo.-Kansas City Student Medical Society		Ms. Ann Hellerstein	Kansas City	Mr. Michael Funderburk	Kansas City
Washington University Student Medical Society					

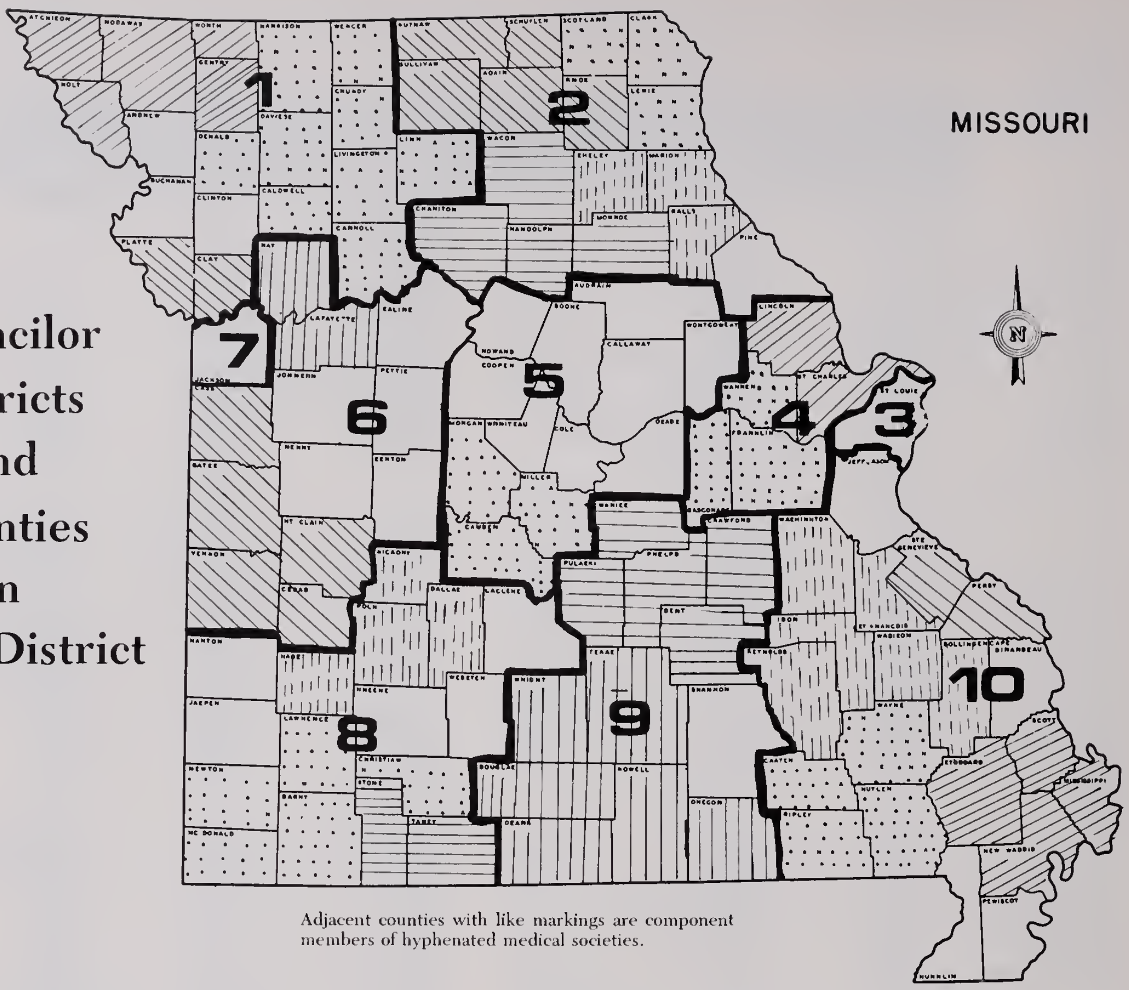
Guide to Component Medical Societies

Following is a list of Missouri communities in which MSMA member-physicians are in active practice or reside. Name of the community is followed by the county in which it is located and the medical society to which physicians of that community normally would belong.

Town	*County*	*Medical Society*
A		
Advance	Stoddard	SEMO
Affton	St. Louis	St. Louis Metropolitan
Albany	Gentry	Northwest Missouri
Altenburg	Perry	Perry-Ste. Genevieve
Appleton City	St. Clair	West Central
Arnold	Jefferson	Jefferson
Arrow Rock	Saline	Saline
Ashland	Boone	Boone
Aurora	Lawrence	Ozarks
Ava	Douglas	South Central
B		
Ballwin	St. Louis	St. Louis Metropolitan
Belton	Cass	West Central
Berkeley	St. Louis	St. Louis Metropolitan
Bethany	Harrison	Grand River
Bloomfield	Stoddard	SEMO
Blue Springs	Jackson	Jackson
Bolivar	Polk	Dallas-Hickory-Polk-Dade
Bonne Terre	St. Francois	Mineral Area
Boonville	Cooper	Cooper
Bourbon	Crawford	Mid-Missouri
Bowling Green	Pike	Pike
Branson	Taney	Tri-Lakes
Braymer	Caldwell	Grand River
Brentwood	St. Louis	St. Louis Metropolitan
Bridgeton	St. Louis	St. Louis Metropolitan
Brookfield	Linn	Grand River
Browning	Linn	Grand River
Brunswick	Chariton	Chariton-Macon-Monroe-Randolph
Buckner	Jackson	Jackson
Buffalo	Dallas	Dallas-Hickory-Polk-Dade
Bunker	Dent	Mid-Missouri
Butler	Bates	West Central
C		
Cabool	Texas	South Central
Cainesville	Harrison	Grand River
California	Moniteau	Moniteau
Camdenton	Camden	Lake of the Ozarks
Cameron	Clinton	Clinton
Campbell	Dunklin	Dunklin
Cape Girardeau	Cape Girardeau	Cape Girardeau
Cardwell	Dunklin	Dunklin
Carrollton	Carroll	Grand River
Carthage	Jasper	Jasper
Caruthersville	Pemiscot	Pemiscot
Cassville	Barry	Ozarks
Centralia	Boone	Boone
Charleston	Mississippi	SEMO
Chesterfield	St. Louis	St. Louis Metropolitan
Chillicothe	Livingston	Grand River
Clarksville	Pike	Pike
Clayton	St. Louis	St. Louis Metropolitan
Clinton	Henry	Henry
Climax Springs	Camden	Lake of the Ozarks
Columbia	Boone	Boone
Concordia	Lafayette	Lafayette-Ray
Crane	Stone	Tri-Lakes
Creve Coeur	St. Louis	St. Louis Metropolitan
Crystal City	Jefferson	Jefferson
Cuba	Crawford	Mid-Missouri
D		
Deepwater	Henry	Henry
Desloge	St. Francois	Mineral Area
DeSoto	Jefferson	Jefferson
Dexter	Stoddard	SEMO
Doniphan	Ripley	Butler-Wayne-Ripley-Carter
E		
East Prairie	Mississippi	SEMO
Edina	Knox	North Central
Eldon	Miller	Lake of the Ozarks
El Dorado Springs	Cedar	West Central
Elsberry	Lincoln	St. Charles-Lincoln
Ellington	Reynolds	Mineral Area
Excelsior Springs	Clay	Clay-Platte
F		
Farber	Audrain	Audrain
Fairdealing	Ripley	Butler-Wayne-Ripley-Carter
Fairfax	Atchison	Northwest Missouri
Farmington	St. Francois	Mineral Area
Fayette	Howard	Howard
Fenton	St. Louis	St. Louis Metropolitan
Ferguson	St. Louis	St. Louis Metropolitan
Festus	Jefferson	Jefferson
Flat River	St. Francois	Mineral Area
Florissant	St. Louis	St. Louis Metropolitan
Forsyth	Taney	Ozarks
Fort Leonard Wood	Pulaski	Mid-Missouri
Fredericktown	Madison	Mineral Area
Frontenac	St. Louis	St. Louis Metropolitan
Fulton	Callaway	Callaway
G		
Gallatin	Daviess	Grand River
Gashland	Clay	Clay
Gerald	Franklin	Franklin-Gasconade-Warren
Gideon	New Madrid	SEMO
Gladden	St. Louis	St. Louis Metropolitan
Gladstone	Clay	Clay-Platte
Glasgow	Howard	Howard
Glendale	St. Louis	St. Louis Metropolitan
Grandview	Jackson	Jackson
Grant City	Worth	Northwest Missouri
Gravois Mills	Morgan	Lake of the Ozarks
Greenfield	Dade	Dallas-Hickory-Polk-Dade
H		
Hamilton	Caldwell	Grand River
Hannibal	Marion	Marrion-Ralls-Shelby
Harrisburg	Boone	Boone
Harrisonville	Cass	West Central
Hayti	Pemiscot	Pemiscot
Herculaneum	Jefferson	Jefferson
Hermann	Gasconade	Franklin-Gasconade-Warren
Hickman Mills	Jackson	Jackson
Higginsville	Lafayette	Lafayette-Ray
Hillsboro	Jefferson	Jefferson
Holden	Johnson	Johnson
Hornersville	Dunklin	Dunklin
Houston	Texas	South Central
Humansville	Polk	Dallas-Hickory-Polk-Dade
Huntsville	Randolph	Chariton-Macon-Monroe-Randolph
I		
Illmo	Cape Girardeau	Cape Girardeau
Independence	Jackson	Jackson
Ironton	Iron	Mineral Area
J		
Jackson	Cape Girardeau	Cape Girardeau
Jefferson Barracks	St. Louis	St. Louis Metropolitan
Jefferson City	Cole	Cole
Jennings	St. Louis	St. Louis Metropolitan
Joplin	Jasper	Jasper
K		
Kansas City	Jackson	Jackson
Kennett	Dunklin	Dunklin
Kimberling City	Stone	Tri-Lakes
King City	Gentry	Northwest Missouri

Town	*County*	*Medical Society*
Kirksville	Adair	North Central
Kirkwood	St. Louis	St. Louis Metropolitan
Knob Noster	Johnson	Johnson
Knox City	Knox	North Central
Koch	St. Louis	St. Louis Metropolitan
L		
Ladue	St. Louis	St. Louis Metropolitan
Lamar	Barton	Barton
Lawson	Ray	Lafayette-Ray
Leawood (Kan.)		Jackson
Leadwood	St. Francois	Mineral Area
Lebanon	Laclede	Laclede
Lee's Summit	Jackson	Jackson
Lemay	St. Louis	St. Louis Metropolitan
Lexington	Lafayette	Lafayette-Ray
Liberty	Clay	Clay-Platte
Linn	Osage	Cole
Lockwood	Dade	Dallas-Hickory-Polk-Dade
Louisiana	Pike	Pike
Lutesville	Bollinger	Mineral Area
M		
Macon	Macon	Chariton-Macon-Monroe-Randolph
Malden	Dunklin	Dunklin
Mansfield	Wright	South Central
Maplewood	St. Louis	St. Louis Metropolitan
Marble Hill	Bollinger	Mineral Area
Marceline	Linn	Grand River
Marshall	Saline	Saline
Marshfield	Webster	Webster
Marthasville	Warren	Franklin-Gasconade-Warren
Martin City	Jackson	Jackson
Maryville	Nodaway	Northwest Missouri
Mexico	Audrain	Audrain
Milan	Sullivan	North Central
Moberly	Randolph	Chariton-Macon-Monroe-Randolph
Monett	Barry	Ozarks
Montgomery City	Montgomery	Montgomery
Morehouse	New Madrid	SEMO
Mound City	Holt	Northwest Missouri
Mountain Grove	Wright	South Central
Mountain View	Howell	South Central
Mount Vernon	Lawrence	Ozarks
N		
Neosho	Newton	Ozarks
Nevada	Vernon	West Central
New Florence	Montgomery	Montgomery
New Haven	Franklin	Franklin-Gasconade-Warren
New London	Ralls	Marion-Ralls-Shelby
New Madrid	New Madrid	SEMO
Nixa	Christian	Ozarks
Normandy	St. Louis	St. Louis Metropolitan
North Kansas City	Clay	Clay-Platte
O		
Oak Grove	Jackson	Jackson
Odessa	Lafayette	Lafayette-Ray
O'Fallon	St. Charles	St. Charles-Lincoln
Olivette	St. Louis	St. Louis Metropolitan
Osage Beach	Camden	Lake of the Ozarks
Osceola	St. Clair	West Central
Overland	St. Louis	St. Louis Metropolitan
Owensville	Gasconade	Franklin-Gasconade-Warren
Ozark	Christian	Ozarks
P		
Pacific	Franklin	Franklin-Gasconade-Warren
Palmyra	Marion	Marion-Ralls-Shelby
Paris	Monroe	Chariton-Macon-Monroe-Randolph
Parkville	Platte	Platte
Parma	New Madrid	SEMO
Pattonsburg	Daviess	Grand River
Pattonville	St. Louis	St. Louis Metropolitan
Perryville	Perry	Perry-Ste. Genevieve
Piedmont	Wayne	Butler-Wayne-Ripley-Carter
Pilot Knob	Iron	Mineral Area
Pine Lawn	St. Louis	St. Louis Metropolitan
Platte City	Platte	Clay-Platte
Plattsburg	Clinton	Clinton
Pleasant Hill	Cass	West Central
Poplar Bluff	Butler	Butler-Wayne-Ripley-Carter
Portageville	New Madrid	SEMO
Potosi	Washington	Mineral Area
Prairie Village (Kan.)		Jackson
Princeton	Mercer	Grand River
Puxico	Stoddard	SEMO
R		
Raytown	Jackson	Jackson
Reeds Spring	Stone	Ozarks
Republic	Greened	Greene
Rich Hill	Bates	West Central
Richmond	Ray	Lafayette-Ray
Richmond Heights	St. Louis	St. Louis Metropolitan
Rivermines	St. Francois	Mineral Area
Robertson	St. Louis	St. Louis Metropolitan
Rocheport	Boone	Boone
Rock Hill	St. Louis	St. Louis Metropolitan
Rockport	Atchison	Northwest Missouri
Rogersville	Webster	Webster
Rolla	Phelps	Mid-Missouri
Rosendale	Andrew	Andrew
S		
St. Ann	St. Louis	St. Louis Metropolitan
St. Charles	St. Charles	St. Charles-Lincoln
St. Clair	Franklin	Franklin-Gasconade-Warren
Ste. Genevieve	Ste. Genevieve	Perry-Ste. Genevieve
St. James	Phelps	Mid-Missouri
St. Joseph	Buchanan	Buchanan
St. Louis	St. Louis	St. Louis Metropolitan
Salem	Dent	Mid-Missouri
Salisbury	Chariton	Chariton-Marion-Monroe-Randolph
Sappington	St. Louis	St. Louis Metropolitan
Sarcoxie	Jasper	Jasper
Savannah	Andrew	Andrew
Sedalia	Pettis	Pettis
Shawnee Mission (Kan.)		Jackson
Shelbina	Shelby	Marion-Ralls-Shelby
Shelbyville	Shelby	Marion-Ralls-Shelby
Shell Knob	Barry	Ozarks
Shrewbury	St. Louis	St. Louis Metropolitan
Sikeston	Scott	SEMO
Slater	Saline	Saline
Smithton	Pettis	Pettis
Smithville	Clay	Clay-Platte
Springfield	Greene	Greene
Stanberry	Gentry	Northwest Missouri
Steele	Pemiscot	Pemiscot
Steelville	Crawford	Mid-Missouri
Stockton	Cedar	West Central
Stafford	Greene	Greene
Sullivan	Franklin	Franklin-Gasconade-Warren
Sweet Springs	Saline	Saline
T		
Tarkio	Atchison	Northwest Missouri
Thayer	Oregon	South Central
Trenton	Grundy	Grand River
Troy	Lincoln	St. Charles-Lincoln
U		
Union	Franklin	Franklin-Gasconade-Warren
University City	St. Louis	St. Louis Metropolitan
V		
Valley Park	St. Louis	St. Louis Metropolitan
Van Buren	Carter	Butler-Wayne-Ripley-Carter
Vandalia	Audrain	Audrain
Versailles	Morgan	Lake of the Ozarks
Vienna	Maries	Cole
W		
Warrensburg	Johnson	Johnson
Warrenton	Warren	Franklin-Gasconade-Warren
Washington	Franklin	Franklin-Gasconade-Warren
Waverly	Lafayette	Lafayette-Ray
Waynesville	Pulaski	Mid-Missouri
Webb City	Jasper	Jasper
Webster Groves	St. Louis	St. Louis Metropolitan
Wellsville	Montgomery	Montgomery
Wentzville	St. Charles	St. Charles-Lincoln
Weston	Platte	Clay-Platte
West Plains	Howell	South Central
Willard	Greene	Greene
Willow Springs	Howell	South Central
Windsor	Henry	Henry
Winston	Daviess	Grand River

Councilor Districts and Counties in Each District


MISSOURI
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* Counties with no medical organization.

List of Designated Specialty Codes

The following specialties, including General Practice, are recognized by the American Medical Association.

A	Allergy
ABS	Abdominal Surgery
ADL	Adolescent Medicine
AI	Allergy and Immunology
AM	Aerospace Medicine
AN	Anesthesiology
BE	Broncho-Esophagology
BLB	Bloodbanking
CD	Cardiovascular Diseases
CDS	Cardiovascular Surgery
CHN	Child Neurology
CHP	Child Psychiatry
CLP	Clinical Pathology
CRS	Colon and Rectal Surgery
D	Dermatology
DIA	Diabetes
DMP	Dermatopathology
DR	Diagnostic Radiology
EM	Emergency Medicine
END	Endocrinology
FOP	Forensic Pathology
FP	Family Practice
GE	Gastroenterology
GER	Geriatrics
GP	General Practice
GPM	General Preventive Medicine
GS	General Surgery
GYN	Gynecology
HEM	Hematology
HNS	Head and Neck Surgery
HS	Hand Surgery
HYP	Hypnosis
ID	Infectious Diseases
IG	Immunology
IM	Internal Medicine
LAR	Laryngology
LM	Legal Medicine
MFS	Maxillofacial Surgery
N	Neurology
NA	Neuropathology
ND	Neoplastic Diseases
NEP	Nephrology
NM	Nuclear Medicine
NPM	Neonatal-Perinatal Medicine
NR	Nuclear Radiology
NS	Neurological Surgery
NTR	Nutrition
OBG	Obstetrics and Gynecology
OBS	Obstetrics
OM	Occupational Medicine
ON	Oncology
OPH	Ophthalmology
ORS	Orthopedic Surgery
OS	Other, i.e., physician designated a specialty other than appearing here.
OT	Otology
OTO	Otorhinolaryngology
P	Psychiatry
PA	Clinical Pharmacology
PD	Pediatrics
PDA	Pediatric Allergy
PDC	Pediatric Cardiology
PDE	Pediatric Endocrinology
PDR	Pediatric Radiology
PDS	Pediatric Surgery
PH	Public Health
PHO	Pediatric Hematology-Oncology
PM	Physical Medicine and Rehabilitation
PNP	Pediatric Nephrology
PS	Plastic Surgery
PTH	Pathology
PUD	Pulmonary Diseases
PYA	Psychoanalysis
PYM	Psychosomatic Medicine
R	Radiology
RHI	Rhinology
RHU	Rheumatology
RIP	Radioisotopic Radiology
TR	Therapeutic Radiology
TRS	Traumatic Surgery
TS	Thoracic Surgery
U	Urological Surgery

Note: No code will appear for those physicians who have not designated a specialty.

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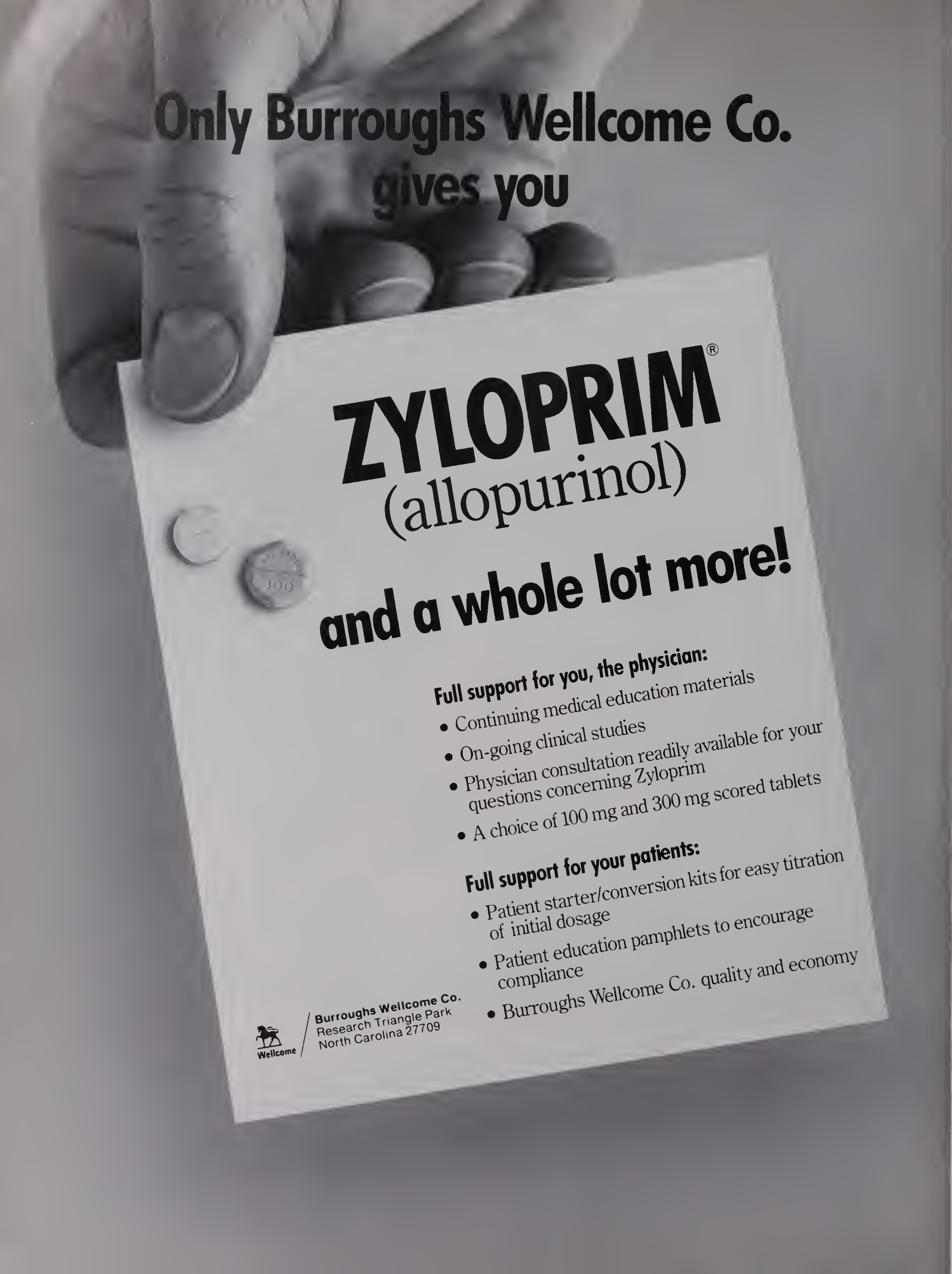

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KUBIN, MILFORO T 541-17 MILE OR PACIFIC GROVE, CA 93950	IM
LABABIOI, ZUHOI A UNIV OF MO COLL OF MEO COLUMBIA, MO 65201 314-882-2501	POC
LACHANCE, LEOPOLO 110 W SNEEO AVE CENTRALIA, MO 65240 314-682-3721	FP
LAOENSON, ROLANO P 704 WESTMOUNT AVE. COLUMBIA, MO 65201 314-449-5359	IM
LAMB, REBECCA L 2307 FAIRMONT COLUMBIA, MO 65201 314-443-0449	OBG
LAMBERTI, JOS W UNIV OF MISSOURI MEO CT COLUMBIA, MO 65201 314-882-2511	P
LAMPTON, LAWRENCE M DOCTOR'S CLINIC BLDG. 1502 EAST BROAOWAY COLUMBIA, MO 65201 314-443-2511	PUO
LANOHUIS, LEO R 3205 LANSING AVE COLUMBIA, MO 65201 314-449-3846	OPH
LEE, HUN TAE 1502 E. BROAOWAY COLUMBIA, MO 65201 314-443-4591	OR
LEEPER, CLAUDE K UNIV OF MO MED CTR DEPT COLUMBIA, MO 65201 314-882-1121	PTH
LEEPER, SIOLEE W BOX 42 RT. 3 COLUMBIA, MO 65201	IM
LEPKOWSKI, HEMLATA K RT. 3, BOX 307K SEOALIA, MO 65301	R
LEVINE, CLIVE N217 RADIOLOGY MEO CTR. UNIVERSITY OF MISSOURI COLUMBIA, MO 65201 314-882-7973	R
LEVY, WALTER J JR 628 HUNTRIDGE CT. COLUMBIA, MO 65201 314-882-4908	NS
LINOBERG, DONALO A ROUTE 4 COLUMBIA, MO 65201	PTH
LITTON, LYNN O 3205 LANSING AVE COLUMBIA, MO 65201 314-443-2402	ORS
LITWILLER, RAYMONO W 1312 W BROADWAY COLUMBIA, MO 65201	GP
LLORENS, ALFREO S 807 STADIUM RD UMMC COLUMBIA, MO 65201 314-882-7937	OBG
LOBECK, CHARLES C RR 4 COLUMBIA, MO 65201 314-882-1566	PD
LOOWICK, GWILYM S 911 LA GRANGE COLUMBIA, MO 65201 314-882-8183	R
LOEPPKY, CAROL B 113 W. BROAOWAY COLUMBIA, MO 65201 314-449-0088	IM
LDGUE, JOHN T 912 CRESTLANO AVE. COLUMBIA, MO 65201	IM
LOHMAR, ROLAND E 113 W BROAOWAY COLUMBIA, MO 65201 314-449-0088	IM
LOPEZ, MARVIN J ELLIS FISCHEL HIGHWAY 40 & GARTH AVE. COLUMBIA, MO 65201 875-2214	GS
LUCAS, LUKE W ONE EAST BROADWAY COLUMBIA, MO 65201 314-874-4177	P
MAHONEY, JOHN P DEPT OF PATH. M646 UNIV. OF MO. MED. CTR. COLUMBIA, MO 65201 314-882-1121	PTH
MALEK-AHMAOI, PARVIZ UNIV OF TEX. OEPT OF PSYCHIATRY GALVESTON, TX 77550	CHP
MALTBY, JAMES O N 207 MEDICAL SCIENCES UMC COLUMBIA, MO 65201 314-882-1161	R
MARIANO, JOSEPH P. O. BOX 570 JEFFERSON CITY, MO 65102 314-751-2713	GP
MARIENFELO, CARL J RT. 1, BOX 182 ASHLAND, MO 65010 314-882-6183	PH
MATIAS, OELIA A 10 REVIERA OR. COLUMBIA, MO 65202 314-443-2965	PO
MC CORO, E S UNIV MEO CENTER DEPT AN COLUMBIA, MO 65201 816-882-2568	AN
MC OAVIO, ROBERT E 203 W BROAOWAY COLUMBIA, MO 65201 314-443-8796	OBG
MC ELROY, GLENN L 3205 LANSING AVE COLUMBIA, MO 65201 314-443-2402	ORS
MECHLIN, DAVID C 3205 LANSING AVE. COLUMBIA, MO 65201 314-874-2192	OTO
METZLER, MICHAEL H UNIV OF MO MEO CTR COLUMBIA, MO 65201 314-882-8157	GS
MILES, JUOITH H OEPT. OF CHILO HEALTH UNIV. OF MO. MED. CTR. COLUMBIA, MO 65201 314-882-6991	PO
MILLER, LEROY J 1502 E BROAOWAY COLUMBIA, MO 65201 314-443-8876	FP
MITCHELL, FRANKLIN L 2208 DANFORTH CT COLUMBIA, MO 65201 314-882-7956	GS
MITCHELL, LYNN O 401 KEENE COLUMBIA, MO 65201 314-874-3340	IM
MOBLEY, JACK E 800 STAOIUM RO. COLUMBIA, MO 65201 314-443-2511	GS
MONROE, CARROLL O 803 STAOIUM RO COLUMBIA, MO 65201 314-445-2362	P
MONTIE, JOS E BOONE CLINIC 401 KEENE STREET COLUMBIA, MO 65201 816-874-3300	U
MOON, AGNES H RUSK REHABILITATION CEN COLUMBIA, MO 65201 314-882-3101	PM
MORANVILLE, BENEDICT A 1504 E BROAOWAY COLUMBIA, MO 65201 314-443-0476	FP
MORGAN, JOHN L 2913 LYNNWOOO DR. COLUMBIA, MO 65201 314-874-7079	R
MORRIS, JOHN J P. O. BOX 537 COLUMBIA, MO 65205	GP
MOSBY, LARRY O 107 E BRANDON RD COLUMBIA, MO 65201 314-449-2902	PTH
MURNEY, RICHARO G JR TRUMAN VA HOSPITAL 807 STAOIUM COLUMBIA, MO 65201 314-882-2532	IM
MUSCATO, MARY S RM N 408 DIV OF HEM/ONC UNIV OF MO MED CTR COLUMBIA, MO 65212 314-882-6163	HEM
NAVARRO, MANUEL I U MO-COLUMBIA MED CTR D COLUMBIA, MO 65201 314-882-1161	R
NICHOLS, WALTER K UN OF MO MED CTR DPT GS COLUMBIA, MO 65201 314-882-8145	GS
NIEUWENHUIZEN, MAARTEN 3916 FAUROT DR COLUMBIA, MO 65201 314-449-2993	P
NOLPH, GEORGIA J 908 HICKORY HILL DR. COLUMBIA, MO 65201 314-882-6191	GP

NOLPH, KARL D IM
DIV OF NEPHROLOGY
DEPT OF MED
COLUMBIA, MO 65201
314-882-7991
DRTH, OLIVER G NS
11 S WILLIAMS ST
COLUMBIA, MO 65201
314-449-3407
DSKINS, PERRY B PTH
PATHOLOGY DEPT
UMMC
COLUMBIA, MO 65201
314-882-1121
OVERHOLSER, MILTON D OS
807 STADIUM ROAD
COLUMBIA, MO 65201
OXENHANDLER, RONALD W PTH
M-646 MEDICAL SCIENCE B
COLUMBIA, MD 65201
314-882-1121
PARKER, BRENT M CD
DIRECTDRS OFFICE
807 STADIUM
COLUMBIA, MO 65201
314-882-4911
PARRAGA, HUMBERTD C CHP
107 WILD ROSE LANE
ROCHESTER, IL 62563
PATTERSON, DONALD C OBG
3401 BERRYWOOD
COLUMBIA, MO 65201
314-449-3884
PAYNE, DAVID E D
1901 RIDGEMONT
CDLUMBIA, MD 65201
314-874-3300
PAYNE, JOHN W ORS
3205 LANSING AVE
COLUMBIA, MO 65201
314-443-2402
PEARLMAN, MILTON H OTO
UNIV. OF MO., MED. CTR.
COLUMBIA, MO 65201
314-882-4141
PEREZ-MESA, CARLOS M PTH
ELLIS FISCHEL CANCER HO
COLUMBIA, MD 65201
314-882-1121
PERRY, MICHAEL C IM
807 STADIUM RD
COLUMBIA, MD 65201
314-882-6123
PFEFER, LELAND U IM
1504 E BROADWAY
COLUMBIA, MO 65201
314-449-1261
PICKARD, CLARENCE M IM
113 W BROADWAY
COLUMBIA, MO 65201
314-449-4101
PICKENS, JAMES M PD
UNIV OF MO MED CTR
COLUMBIA, MO 65201
314-882-6991
PINGELTON, WM B DBG
113 W BRDADWAY
COLUMBIA, MO 65201
314-449-5766
POLITTE, LENARD L CD
401 KEENE ST
COLUMBIA, MD 65201
314-874-3330
PRICA, JR., GEORGE FP
1502 E. BROADWAY
COLUMBIA, MD 65201
314-449-0808
PUCKETT, CHAS L PS
UNIV OF MO MED CTR
M348 MED CTR 807 STA
COLUMBIA, MO 65201
314-882-2275
RALL, KENNETH L R
1502 E. BRDADWAY
COLUMBIA, MO 65201
314-443-4591
RENNER, GREGORY J OTO
M583 UNIV. MED. CTR.
COLUMBIA, MO 65201
314-882-8173
RIDENHOUR, CLARENCE E GS
ROUTE 13 CEDAR GROVE
COLUMBIA, MO 65201
314-874-3111
RIKLI, ARTHUR E GPM
4003 FAUROT DR
COLUMBIA, MO 65201
314-882-2248
RINGENBERG, O. SCOTT IM
807 STADIUM RD.
COLUMBIA, MO 65212
314-882-4141
RODGERS, ELRIE P IM
BOX 993
COLUMBIA, MO 65201
314-442-0914
ROGERS, WALLACE A PTH
UNIV MO MED CTR DPT PTH
COLUMBIA, MO 65201
314-882-1121
RDLLER, JAMES A D
3401 BERRYWODD
COLUMBIA, MO 65201
314-221-4786
ROSENHOLTZ, MITCHELL J PTH
103 LONGFELLOW LANE
CDLUMBIA, MO 65201
314-882-1121
ROSS, GILBERT U
807 STADUIM
COLUMBIA, MO 65201
314-882-3966
ROYER, JERRY A FP
807 STADIUM
COLUMBIA, MO 65201
314-882-6191
RUSSELL, GARTH S ORS
BDX O
COLUMBIA, MO 65201
314-443-2402
SADHU, VIJAY K R
1502 E. BROADWAY
COLUMBIA, MO 65201
314-443-4591
SALMON, TIMOTHY P D
2627A SUMMIT RD
COLUMBIA, MO 65201
314-882-3141
SANDERS, HARDLD L DR
1502 E BRDADWAY
COLUMBIA, MO 65201
SCHELL, JAMES A II IM
3401 BERRYWOOD DR.
COLUMBIA, MO 65201
314-442-3168
SCHEWE, ELMER J GS
3401 BERRYWOOD
SUITE104
COLUMBIA, MO 65201
314-443-8773
SCHOENGARTH, LOWELL D OPH
3205 LANSING AVE.
COLUMBIA, MO 65201
314-449-3846
SEE, WM B DBG
706 SEYMOUR
CDLUMBIA, MO 65201
445-4561
SHAHEEN, ELEANOR PD
UNIV MD MED CTR-PED DPT
COLUMBIA, MO 65201
314-882-4932
SHAPERO, JAMES A P
1301 FIELDCREST
COLUMBIA, MO 65201
314-883-8771
SIGHTS, WARREN P NS
807 STADIUM
COLUMBIA, MO 65201
SILVER, DONALD GS
807 STADIUM
COLUMBIA, MO 65201
314-882-8178
SIMONDS, JOHN F CHP
807 STADIUM
COLUMBIA, MO 65201
314-882-8006
SINGSEN, BERNHARD H PD
M661
UNIV. OF MO. MED. CTR.
COLUMBIA, MO 65212
314-882-3996
SMITH, JASDN N IM
701 WEST BLVD S
COLUMBIA, MD 65201
314-882-2580
SMITH, JOE R OPH
1504 E BRDADWAY
COLUMBIA, MO 65201
314-449-5887
SOHA, JOSEPH J DR
114 ARBDR DRIVE
CDLUMBIA, MO 65201
314-449-3931
SOMERS, JOHN E N
11 S WILLIAMS ST
COLUMBIA, MO 65201
314-449-3404
SORKIN, MICHAEL I IM
TD 4-E 226
UNIVERSITY OF MO MED
COLUMBIA, MO 65201
314-882-2212
SOSEBEE, LEE A ORS
3205 LANSING AVE
COLUMBIA, MO 65201
314-443-2402
SPURGEON, MILO J AN
404 EDGEWOOD
COLUMBIA, MO 65201
STEPHENSON, HUGH E TS
UMIV OF MO SCHOOL MED
COLUMBIA, MO 65201
314-882-7155
STEWART, WELLINGTON B PTH
COL OF MED DEPT PATH
COLUMBIA, MO 65201
314-882-1121
STOY, ROBT P GS
201 W BRDADWAY
COLUMBIA, MO 65201
314-449-3159
STRADFORD, H T ORS
1444 S EL CHAPARRAL AVE
COLUMBIA, MO 65201
STRAUSBAUGH, LARRY J IM
807 STADIUM RD.
COLUMBIA, MO 65201
314-442-4902
SUNDERRAJAN, ETTAYAPURAM V PUD
VA HOSPITAL RDOM 408
COLUMBIA, MD 65201
314-443-2511
TAYLOR, HENRY M IM
UNIV OF MO MED CTR
COLUMBIA, MD 65201
314-882-1121
TEMPLER, JERRY W OTO
807 STADIUM
COLUMBIA, MO 65201
314-882-8173
TERRY, BDYD E GS
UNIV DF MD HOSP DEPT SU
COLUMBIA, MO 65201
314-882-7156
THOMAS, HORACE E GS
1502 E BRDADWAY
COLUMBIA, MO 65201
314-449-6406
THOMAS, JAMES R OTO
3205 LANSING
COLUMBIA, MO 65201
314-882-8173
THOMAS, RDBERT M OTO
3205 LANSING AVE AT KEE
COLUMBIA, MO 65201
314-449-0516
TILLMAN, CRAIG P DR
2901 W ROLLINS
COLUMBIA, MO 65201
314-882-1161
TINSLEY, JOHN C IM
16 S 10TH ST
COLUMBIA, MO 65201
314-442-6838
TRUMBOWER, WM D OBG
2417 BEACHVIEW
CDLUMBIA, MO 65201
314-443-0049
TULLY, RICHARD J DR
807 STADIUM RD
COLUMBIA, MO 65201
314-882-1161
TWARDOWSKI, ZBYLUT J NEP
M-472-HEALTH SCIENCES CTR
1 HOSPITAL DR.
COLUMBIA, MD 65212
314-882-7991
VAN STONE, JOHN C IM
TD 4-E
UNIV OF MO MED CTR
COLUMBIA, MO 65201
816-443-1531
VISDT, LUIS R PM
RUSK REHAB. CTR.
COLUMBIA, MO 65201
314-882-3101
VU, LIEM C PTH
UNIV. DF MO. MED. CTR.
DEPT. OF PATH.
COLUMBIA, MD 65201
314-882-1121
WAGGONER, CHAS M R
201 W BRDADWAY
COLUMBIA, MO 65201
314-443-7430
WAKERLIN, GEO E US
231 EL BONITO WAY
MILLBRAE, CA 94030
WALLS, JOSEPH T CDS
UNIV. DF MO. MED. CTR.
COLUMBIA, MO 65201
314-882-6954
WALTERS, LAURA D
1027 HICKORY HILL DR.
COLUMBIA, MO 65201
314-449-1266
WATSON, TREVOR F OBG
1504 E BROADWAY
COLUMBIA, MO 65201
314-443-4511
WATTS, CLARK C NS
807 STADIUM
COLUMBIA, MO 65201
314-882-4908
WEAVER, DANA J U
UNIV HOSP & CLINICS
1 HOSPITAL DR.
COLUMBIA, MO 65212
314-882-3966
WEIGEL, JAMES W GP
STUDENT HEALTH
6TH STREET
COLUMBIA, MO 65201
314-882-7481

WEINSTEIN, MARY M PD
UMMC
DEPT. CHILD HEALTH
COLUMBIA, MO 65201
314-882-4932
WEINSTEIN, STEPHEN H U
DEPT. OF SURGERY
UNIV. OF MO. MED CTR.
COLUMBIA, MO 65212
314-882-3966
WEISS, JAMES M P
UNIV OF MO MED CENTER
COLUMBIA, MO 65201
314-882-3176
WHITENER, DON R IM
401 KEENE ST.
COLUMBIA, MO 65201
314-874-3340
WIGGINS, ROLAND L IM
408 N GARTH ST
COLUMBIA, MO 65201
314-449-4958
WILLARD, ROBERT R PH
RUSK REHAB CTR RM 501
COLUMBIA, MO 65212
314-882-3101
WILLCOX, ROGER A EM
2607 MALLARD CT.
COLUMBIA, MO 65201
314-875-4545
WILLIAMS, ANDREW F OBG
203 W BROADWAY
COLUMBIA, MO 65201
314-443-8796
WILSON, DEBORAH A IM
N403 UNIV. HOSP UMHSC
COLUMBIA, MO 65212
314-882-8738
WILSON, GEO P R
SUITE 103
3401 BERRYWOOD
COLUMBIA, MO 65201
314-449-3931
WILSON, JOHN E OBG
401 KEENE ST
COLUMBIA, MO 65201
314-874-2020
WINDMILLER, MYRL E GS
1504 E BROADWAY
COLUMBIA, MO 65201
314-449-5684
WINNACKER, JOHN L IM
467 VA HOSPITAL
COLUMBIA, MO 65201
314-443-2511
WOODRUFF, CALVIN W PD
807 STADIUM ROAD
COLUMBIA, MO 65201
314-882-3996
YANG, HENRY K OPH
203 W. BROADWAY
COLUMBIA, MO 65201
314-874-1616
YARBRO, JOHN W IM
2604 LUAN COURT
COLUMBIA, MO 65201
314-882-6163
YESUS, YOHANNES W PTH
807 STADIUM RD
COLUMBIA, MO 65201
314-882-1121
ZACHARIAS, KULANGARA P GS
RT 5 COUNTRYSHIRE
COLUMBIA, MO 65201
314-445-9666
ZACHARIAS, SARA PTH
RT. 5, COUNTRYSHIRE
COLUMBIA, MO 65201
314-445-9666

030—BUCHANAN

ACUFF, R P R
702 JULE ST
ST JOSEPH, MO 64501
816-233-8211
AHAD, ABDUL P
BOX 263 3400 FREDERICK
ST JOSEPH, MO 64502
816-232-8431
AMES, WM H IM
902 EDMOND ST
ST JOSEPH, MO 64501
816-233-9711
ANDRES, EDWARD H GS
1322 N. 36TH ST.
ST JOSEPH, MO 64506
816-233-3337
APARICIO, SAMUEL E OBG
P.O. BOX 394 FAIRLIEGH STA.
ST JOSEPH, MO 64506
816-232-8431
BALLARO, DEWEY P IM
THOMPSON BRUMM KNEPPER
ST JOSEPH, MO 64502
816-233-9711
BARTULICA, NICHOLAS P
3400 FREDERICK
ST JOSEPH, MO 64502
816-232-8431
BECK, PAUL M OPH
409 KIRKPATRICK BLDG
ST JOSEPH, MO 64501
816-233-2297
BEHELER, EDWARD M GS
422 N 7TH ST
ST JOSEPH, MO 64501
816-232-8444
BENSON, SCOTT C FP
P O BOX #1387
MESA, AZ 85201
BERKOWITZ, ELLIS R IM
510 FRANCIS ST.
ST. JOSEPH, MO 64501
BERNEY, FRANCIS J OTO
1225 N 10TH ST
ST JOSEPH, MO 64501
816-232-3771
*BOWERS, JAMES L FP
1301 BUCHANAN AVE.
ST. JOSEPH, MO 64501
816-232-4242
BRADLEY, J. DOUGLAS FP
238 PIONEER BLDG.
ST. JOSEPH, MO 64501
816-233-7377
BRENNAN, RICHARD J ORS
1335 VILLAGE DR
ST JOSEPH, MO 64506
816-233-0211
BRISTOW, ROBERT B U
416 N 7TH
ST JOSEPH, MO 64501
816-279-6331
BROWN, MERLIN O FP
510 FRANCIS
PIONEER BLDG SUITE 2
ST JOSEPH, MO 64501
816-233-7377
BRYANT, SYDNEY L IM
902 EDMOND ST
ST JOSEPH, MO 64502
816-233-9711
BUTLER, ELZA F OM
3110 DOUGLAS ST.
ST JOSEPH, MO 64506
816-233-1656
CARPENTER, GEO T IM
902 EDMOND ST
ST JOSEPH, MO 64502
816-233-9711
CERZA, ROBERT F AN
11 LAKELAND ESTATES
ST. JOSEPH, MO 64506
816-364-5255
CHALLENER, WM A IM
902 EDMOND ST
ST JOSEPH, MO 64502
816-233-9711
CHRIST, MARTIN H A
1402 FARAON ST
ST JOSEPH, MO 64501
816-279-1615
CORDER, ROBT L OBG
510 FRANCIS
ST JOSEPH, MO 64501
816-233-5139
COX, JOHN P P
301 N 8TH ST.
ST JOSEPH, MO 64501
816-232-2224
CRAIG, OWEN W FP
KIRKPATRICK BLDG
ST JOSEPH, MO 64501
816-279-7421
CRAIG, RICHARD O GS
510 FRANCIS PL
ST JOSEPH, MO 64501
816-232-5113
DAY, ROMNEY M U
1410 HIGHLAND
MC ALLEN, TX 78501
DECANINI, MARIO P
P O BOX 11
ST JOSEPH, MO 64502
816-232-8431
DU MONT, CLEMENT C FP
1905 FRANCIS ST
ST JOSEPH, MO 64501
816-232-5776
DYER, GARY A O
1325 VILLAGE DR
ST JOSEPH, MO 64506
816-364-1507
ESCOBAR, NELSON G NS
315 N. 10TH
ST JOSEPH, MO 64501
816-232-9221
FERNANDEZ, FERNANDO PO
1341 VILLAGE DR
ST JOSEPH, MO 64506
816-364-5974
FISHER, JOS L R
702 JULES ST.
ST JOSEPH, MO 64501
816-233-8211
FOX, GERALD E PTH
2106 LOVERS LANE
ST JOSEPH, MO 64505
816-271-7958
GAFFNEY, JON W PS
1504 N. 36TH ST.
ST. JOSEPH, MO 64506
816-364-3113
GARRIDO, DANTE D N
908 N. BELT
ST. JOSEPH, MO 64506
816-232-1548
GARRISON, DAVID L OBG
1502 N. 36TH
ST JOSEPH, MO 64506
816-232-0654
GHOSH, RANENDRA B P
3400 FREDERICK
ST JOSEPH, MO 64501
816-232-8431
GOEKING, C. KEITH OBG
1502 N. 36TH STREET
ST. JOSEPH, MO 64506
816-232-0654
GONDRING, WILLIAM H ORS
1335 VILLAGE DR
ST JOSEPH, MO 64506
816-233-0211
GREWAL, NARINDER S AN
2400 FREDERICK AVE.
ST. JOSEPH, MO 64506
816-232-3003
GRIMES, MANNING E FP
815 N. NOYES BLVD
ST JOSEPH, MO 64506
816-232-3819
GUNTER, JOE S U
1322 NO. 36TH
ST JOSEPH, MO 64506
816-232-6315
HARNER, CASPER G O
902 EDMOND ST
ST JOSEPH, MO 64502
816-233-7702
HAYES, PAUL W P
610 N NOYES BLVD
ST JOSEPH, MO 64506
816-233-4950
HEINS, DONALD E R
617 TANGLEWOOD
ST. JOSEPH, MO 64506
816-233-8211
HERMAN, ALLEN I IM
1909 NO. 32ND ST.
ST JOSEPH, MO 64506
816-232-4056
HUGHES, JUDSON M OM
3306 JENNIFER LANE
ST JOSEPH, MO 64506
816-279-3823
IDE, LUCIEN W IM
902 EDMOND AVE
ST JOSEPH, MO 64502
816-233-9711
INOCENCIO, EDDIE C OTO
3201 C ASHLAND AVE.
ST JOSEPH, MO 64506
816-232-0053
*JACKS, RICHARD K P
P. O. BOX 263
ST. JOSEPH, MO 64502
816-232-8431
JIMENEZ, JOSE P
2222 EDGEWATER
ST JOSEPH, MO 64502
816-364-1501
JOHE, SANG W ORS
ST. JOSEPH STATE HOSPITAL
3400 FREDERICK
ST. JOSEPH, MO 64502
816-232-8431
KIEKHAEFER, THEODORE C FP
EVERGREEN ESTATES #2
R R #2
ST JOSEPH, MO 64505
816-233-7702
KLINE, CARLYN M FP
17 STONECREST
ST JOSEPH, MO 64506
816-279-3506
KLINE, EDMUND W OBG
510 FRANCIS
ST JOSEPH, MO 64501
816-233-5139
KNEPPER, PAUL A GS
2002 ASHLAND AVE.
ST JOSEPH, MO 64506
816-233-9711
KRUEGER, STEVEN K CO
900 N. BELT HIGHWAY
ST. JOSEPH, MO 64501
816-233-9053
LACKAMP, ROBERT J R
702 JULE ST.
ST. JOSEPH, MO 64501
816-233-8211
LANCOURT, JEROLD E ORS
1335 VILLAGE DR.
ST. JOSEPH, MO 64506
816-233-0211

---

* Doctor of Osteopathy.

LEE, CARLETON H A
4104 ST. JOSEPH AVE.
ST JOSEPH, MO 64505
816-232-5493
LEHMAN, PHILIP C ORS
2702 LOVERS LN
ST JOSEPH, MO 64506
816-232-9740
LOCKARD, ORLYN D IM
1321 VILLAGE DR.
ST. JOSEPH, MO 64506
816-233-9711
MAGINN, RICHARD L FP
702 JULE ST
ST JOSEPH, MO 64501
816-279-6395
MARSTON, F. JAMES DBG
1502 NORTH 36TH ST.
ST JOSEPH, MO 64506
816-232-0654
MARTIN, JOHN N U
416 N SEVENTH ST.
ST JOSEPH, MO 64501
816-279-6331
MC DANIEL, JOHN R GS
1808 N 29TH ST.
ST JOSEPH, MO 64507
816-279-7206
MC DONALD, WALLACE IM
29 RIDGELAND ROAD
ST JOSEPH, MO 64505
816-233-9027
MC DONALD, WILBUR P GS
6 COUNTARY CLUB ROAD
ST JOSEPH, MO 64505
816-232-1719
MC MILLEN, JAMES J IM
900 N BELT HIGHWAY
ST JOSEPH, MO 64506
816-233-9053
MILLER, WILLIAM D FP
510 FRANCIS
ST. JOSEPH, MO 64501
816-233-7377
MOELLER, RANDALL J U
1322 N 36TH. STREET
ST. JOSEPH, MO 64506
MOEN, BERWYN H OTO
902 EDMOND ST
ST JOSEPH, MO 64502
816-233-9711
MORSE, JOHN P ORS
514 FRANCIS
ST. JOSEPH, MO 64501
816-232-9740
MORSE, MARVIN W PTH
2702 FARON ST
ST JOSEPH, MO 64501
816-279-1412
MOTHERSHEAD, JOHN L FP
2603 FREDERICK AVE
ST JOSEPH, MO 64506
816-233-1212
MOYA, CARLOS E PTH
METHODIST MEDICAL CENTER
SEVENTH STREET
ST. JOSEPH, MO 64501
816-271-7901
MUAWWAD, RAFIK D ORS
9404 FERRY LANDING CT.
ALEXANDRIA, VA 22309
MUENCH, ALBERT H PH
412 N 25TH
ST JOSEPH, MO 64501
816-232-3408
MULLICAN, CHAS N IM
510 FRANCIS ST
SUITE 324
ST JOSEPH, MO 64501
816-279-6376
MURPHY, JAMES A OPH
3201 ASHLAND AVE.
ST JOSEPH, MO 64506
816-232-6758
NESS, CARL K AN
8 LINDENWOOD LANE
ST JOSEPH, MO 64505
816-232-8769
NGUYEN, HELEN T A
EAST RIDGE VILLAGE S/C
3817 FREDERICK BLVD.
ST. JOSEPH, MO 64506
816-279-1113
O'CONNOR, WILLIAM B D
510 FRANCIS ST
ST JOSEPH, MO 64501
816-232-3209
OSKVIG, ROGER M IM
510 FRANCIS ST.
ST. JOSEPH, MO 64501
*OWENS, LESTER A PM
4106 MILLER RD.
ST. JOSEPH, MO 64506
816-271-7676
PARTAMIAN, KRIKOR O U
1322 NO. 36TH
ST JOSEPH, MO 64506
816-232-6315

PATEL, BIPIN T AN
2400 FREDERICK
SUITE 111A
ST. JOSEPH, MO 64506
816-232-3003
PATEL, PRAKESH B IM
602 JULES STREET
ST. JOSEPH, MO 64501
816-232-0185
PAULSON, GORDON S IM
1305 VILLAGE DR.
ST JOSEPH, MO 64506
816-233-1361
PETERSEN, HAROLD E PD
2902 FREDERICK AVE
ST JOSEPH, MO 64506
816-279-2664
PIFER, LAWRENCE H FP
925 FIFTH AVE
ST JOSEPH, MO 64505
816-232-1333
POTTER, CARYL A JR IM
510 FRANCIS ST.
ST JOSEPH, MO 64501
816-279-6376
PROKOP, JOS R PD
29 STONECREST
ST JOSEPH, MO 64506
816-232-4100
RAPHEL, JOSE P
1111 N 49TH TERR
ST JOSEPH, MO 64506
816-232-8431
RAUTH-FARLEY, MARY KAY PD
510 FRANCIS
SUITE 314
ST. JOSEPH, MO 64501
REDMOND, WILLIAM S FP
620 FRANCIS ST
315 KIRKPATRICK BLDG
ST JOSEPH, MO 64501
816-232-5420
ROBERTS, PHYLLIS G PD
2607 CORNELL AVE
ST JOSEPH, MO 64506
816-233-5491
ROGERS, JOHN T GS
2502 ASHLAND AVE
ST JOSEPH, MO 64506
816-232-4425
ROSENTHAL, IRWIN I FP
ST JOSEPH STATE HOSP
BOX 263
ST JOSEPH, MO 64502
816-232-8431
RYAN, JOHN H GS
2901 LOVER LANE
ST JOSEPH, MO 64506
816-232-5639
SHAH, NARENDRA AN
2400 FREDERICK SUITE 111
ST JOSEPH, MO 64506
816-232-3003
SHAH, SHEILA PTH
METHODIST MEDICAL CENTER
ST. JOSEPH, MO 64501
816-271-7901
SHEVLIN, CHAS F PD
#C 1635 LARIENA WAY
PALM SPRINGS, CA 92262
SILLIMAN, YORK E PTH
2715 FRANCIS
ST JOSEPH, MO 64501
816-271-6160
SKLENAR, DONALD E FP
228 ILLINOIS
ST. JOSEPH, MO 64504
816-238-4016
SODEMAN, THOMAS M PTH
METHODIST MEDICAL CENTER
ST. JOSEPH, MO 64501
816-271-7231
SOURK, ROBERT L IM
900 N BELT
ST. JOSEPH, MO 64506
SPURGAT, ROBERT M IM
510 FRANCIS ST
ST JOSEPH, MO 64501
816-279-6376
STALLARD, DONALD J IM
902 EDMOND ST
ST JOSEPH, MO 64502
816-233-9711
STAMM, HOWARD W PM
DEPT OF REHAB
METHODIST MEDICAL CTR
ST. JOSEPH, MO 64501
STEVENS, EDWARD M DR
702 JULE
ST JOSEPH, MO 64504
816-233-8211
STEWART, CHRISTOPHER J EM
4921 WOODFIELD
ST. JOSEPH, MO 64506
816-271-6000
STUBER, ROBERT R IM
900 N BELT HWY
ST JOSEPH, MO 64506
816-233-9053

THOMPSON, F. GREGG PD
2714 ASHLAND AVE
ST JOSEPH, MO 64506
816-364-5947
TOBIN, ROBERT F DPH
3201 ASHLAND AVE.
ST JOSEPH, MO 64506
816-233-6758
VALERA, SALVADOR S P
1202-C VILLAGE DR.
ST JOSEPH, MO 64506
816-233-1144
VYAS, KISHOR L PTH
5325 FARAON RD.
ST. JOSEPH HOSPITAL
ST. JOSEPH, MO 64506
816-271-6160
WADLOW, ERNEST E DBG
1401 N. 43RD ST.
ST. JOSEPH, MO 64506
WAGGONER, SHARON E FP
301 ILLINOIS AVE
ST JOSEPH, MO 64504
816-238-4544
WEINAND, ERNEST E GS
1322 N. 36TH ST.
ST JOSEPH, MO 64502
816-233-3337
WHITSELL, O. EARL OPH
802 N 23RD ST
ST JOSEPH, MO 64506
816-279-0943
WILLMAN, CHARLES R GS
2216 HIGHLY
ST JOSEPH, MO 64506
816-232-4447
WILLUMSEN, HENRY C OBG
2209 EUGENE FIELD AVENUE
ST JOSEPH, MO 64505
816-271-6000
WINDSOR, DAVID G P
RR #1
ROSENDALE, MO 64483
816-232-5246
WOLANSKI, EUGENE G IM
902 EDMOND ST
ST JOSEPH, MO 64502
816-233-9711
YOUNG, THOMAS J OPH
3201 ASHLAND AVE
ST JOSEPH, MO 64506
816-233-6758

034—BUTLER-WAYNE-RIPLEY-CARTER

ALLEGO, MELQUIADITO M NM
RADIOLOGY DEPT.
PERRY COUNTY MEM HOSP
PERRYVILLE, MO 63775
314-547-1842
ANDRUS, DON L GS
VA HOSPITAL
POPLAR BLUFF, MO 63901
314-686-4151
BARBOUR, MARVIN R FP
KNEIBERT CLINIC
POPLAR BLUFF, MO 63901
314-686-2411
BASKURT, MEHMET V R
VA HOSPITAL DEPT OF RAD
POPLAR BLUFF, MO 63901
314-686-4151
BENOIST, LOUIS A ORS
2201-6 WESTWOOD VILLAGE
POPLAR BLUFF, MO 63901
314-785-0133
BHOTHINARD, BHISIT N
107 OAK ST.
POPLAR BLUFF, MO 63901
314-686-1135
BIETERMAN, STEVEN A OBG
666 LESTER ST.
POPLAR BLUFF, MO 63901
314-686-2411
BIGGS, FRED J GP
949 ROBIN DR.
POPLAR BLUFF, MO 63901
314-785-4515
BROOKRESON, ALTON O FP
#1 HONEYSUCKLE LANE
POPLAR BLUFF, MO 63901
314-686-4133
CALDWELL, FRED FP
KNEIBERT CLINIC
POPLAR BLUFF, MO 63901
314-686-2411
CAMP, RICHARD V FP
P.O. BOX 158
POPLAR BLUFF, MO 63901
CARLSON, ELMER C OBG
623 PINE ST
POPLAR BLUFF, MO 63901
314-686-2411
CHAND, NAZAR PD
666 LESTER
POPLAR BLUFF, MO 63901
314-686-2411

---

* Doctor of Osteopathy.

CHOWDHURY, MAHBUB IM
1004 SKYLINE DR.
POPLAR BLUFF, MO 63901
314-686-4151
CHRISTY, JOHN P GS
666 LESTER ST
POPLAR BLUFF, MO 63901
314-686-2411
CHUNG, TAI-YONG GS
2201-13 N WESTWOOD BLVD.
POPLAR BLUFF, MO 63901
314-686-6061
COSTIN, JIMMY L PTH
1980 N. WESTWOOD
POPLAR BLUFF, MO 63901
314-686-2488
DEMENT, ROY M GS
666 LESTER
POPLAR BLUFF, MO 63901
314-686-2411
DEVER, ROBERT L DR
686 LESTER ST.
POPLAR BLUFF, MO 63901
314-686-2411
DUNCAN, ROLIN B FP
666 LESTER
POPLAR BLUFF, MO 63901
314-686-2411
ENGELHARDT, ROBT C AN
KNEIBERT CLINIC
POPLAR BLUFF, MO 63901
314-686-2411
ESPINOSA, TOMAS P
KNEIBERT CLINIC
POPLAR BLUFF, MO 63901
314-686-2411
FARIES, JAMES L R
SR#1
WILLIAMSVILLE, MO 63967
314-686-2411
FARRIS, LARRY E CLP
1980 NO. WESTWOOD
POPLAR BLUFF, MO 63901
314-686-2488
FRASER, RICHARD A IM
621 PINE ST
POPLAR BLUFF, MO 63901
314-686-2411
GERNSTETTER, S L ORS
P O BOX 337
POPLAR BLUFF, MO 63901
314-785-2243
GIESELMANN, JAMES W GS
107 OAK ST.
POPLAR BLUFF, MO 63901
314-686-6041
HALIM, JAMIL S IM
604 BARTLETT ST.
APT. 7
POPLAR BLUFF, MO 63901
314-686-4151
HANSBROUGH, EUGENE T GS
1502 LURLYN
POPLAR BLUFF, MO 63901
314-686-2411
HECKER, JOS E FP
KNEIBERT CLINIC
POPLAR BLUFF, MO 63901
314-686-2411
HOJA, W. ALEX OBG
OAKHAVEN WOMEN'S CLINIC
1111 MANSION MALL DR.
POPLAR BLUFF, MO 63901
314-785-7731
HUNT, JOHN L GP
3600 WILCOX RD.
POPLAR BLUFF, MO 63901
314-222-3556
KIM, CHUL IM
2201-15 N. WESTWOOD
P.O. BOX 3908
POPLAR BLUFF, MO 63901
314-686-7223
KWOUN, SOUNG GS
217 OAK STREET
POPLAR BLUFF, MO 63901
314-686-6061
LAATSCH, ROBT H FP
1333 MEADOW LN
POPLAR BLUFF, MO 63901
314-686-6041
LADYMAN, GEO H R
623 PINE
POPLAR BLUFF, MO 63901
314-686-2411
LASETER, MICHAEL IM
KNEIBERT CLINIC
POPLAR BLUFF, MO 63901
314-686-2411
LAVARRO, ROLANDO M GS
BOX 369 HIGHWAY 106
ELLINGTON, MO 63638
314-663-7725
LEARY, WILLIAM V IM
1415 BIG BEND
POPLAR BLUFF, MO 63901
314-686-4151
LEROUX, GENE H GP
204 SUMMIT
DONIPHAN, MO 63935
314-996-2136
LESTMANN, HENRY E FP
BOX 104B RT. 1
FAIRDEALING, MO 63939
314-686-2411
LOUGHEAD, JOHN R OTO
1201 LURLYN AVE
POPLAR BLUFF, MO 63901
MACAULEY, BERNARD J OPH
P O BOX 425
DONIPHAN, MO 63935
MADDURI, ARUNA D OBG
666 LESTER
POPLAR BLUFF, MO 63901
314-686-2411
MADDURI, SIVAPRASAD D U
666 LESTER
POPLAR BLUFF, MO 63901
314-686-2411
MASSEY, WARNER B PTH
KNEIBERT CLINIC
666 LESTER
POPLAR BLUFF, MO 63901
314-686-2411
MAY, ALBERT L GS
330 N 2ND ST
POPLAR BLUFF, MO 63901
314-686-6041
MC ANELLY, GEORGE C U
400 SOUTH 11TH STREET
POPLAR BLUFF, MO 63901
314-686-2466
MC LANE, JERRY F OBG
OAKHAVEN WOMEN'S CLINIC
1111 MANSION MALL DR
POPLAR BLUFF, MO 63901
314-785-7731
MORANZ, JOHN W ENT
JCT D HWY 60
VAN BUREN, MO 63965
314-323-4211
NAGY, AL L P
RT. 1, BOX 108
POPLAR BLUFF, MO 63901
314-785-7941
PARKER, ARTHUR C PD
KNEIBERT CLINIC
POPLAR BLUFF, MO 63901
314-686-2411
PATEL, JAYKRISHNA S IM
VA MEDICAL CENTER
POPLAR BLUFF, MO 63901
314-686-4151
PEHLMAN, JOS E PD
#1 HOSPITAL DR.
DONIPHAN, MO 63935
314-996-7188
RAMIREZ, RICARDO M PTH
KNEIBERT CLINIC
POPLAR BLUFF, MO 63901
314-686-2411
REDDY, ABBIAH N U
666 LESTER ST
POPLAR BLUFF, MO 63901
314-686-2411
ROBERTSON, WM D GP
MC PHEETERS CLINIC
107 OAK ST.
POPLAR BLUFF, MO 63901
314-686-6041
RUFF, GENE U
1411 ROSEDALE
POPLAR BLUFF, MO 63901
314-785-4916
SERALATHAN, RAMASAMY GS
VA HOSPITAL
POPLAR BLUFF, MO 63901
314-686-4151
STUBBLEFIELD, CALVIN F IM
2547 HOLLYHOCK
GERMANTOWN, TN 38138
SUVAN, R PD
107 OAK STREET
POPLAR BLUFF, MO 63901
314-686-6041
TILL, BENNIE N FP
666 LESTER ST
POPLAR BLUFF, MO 63901
314-686-2411
TRAXEL, WM L OPH
623 PINE BLVD
POPLAR BLUFF, MO 63901
314-686-2411
TUMA, ARTHUR T R
1601 BIG BEND
POPLAR BLUFF, MO 63901
314-785-7701
TURNER, KIRBY L FP
623 PINE
POPLAR BLUFF, MO 63901
314-686-2411
VARMA, DEVENDRA K IM
1381 SUSAN DR.
POPLAR BLUFF, MO 63901
314-785-7708
WHITE, BARRY B FP
PUXICO CLINIC MD INC
PUXICO, MO 63960
314-222-3556
WOOD, THOS O FP
666 LESTER KNEIBERT CLINIC
POPLAR BLUFF, MO 63901
314-686-2411
YOUNG, WILLIAM C GS
666 LESTER ST.
KNEIBERT CLINIC
POPLAR BLUFF, MO 63901
314-686-2411

038—CALLAWAY

BRESHEARS, EDWIN D FP
820 JEFFERSON
FULTON, MO 65251
314-642-6691
BROWN, JOHN J GS
1304 VINE ST
FULTON, MO 65251
BROWN, KATHERINE S AN
1304 VINE ST
FULTON, MO 65251
DOMKE, HERBERT R PH
P. O. BOX 570
JEFFERSON CITY, MO 65102
DURST, HENRY GP
P.O.BOX 419
FULTON, MO 65251
314-642-2607
DY ENG KIAT, VICENTE O IM
16 LAKEVIEW DR.
FULTON, MO 65251
314-642-3311
FREDERICH, MICHAEL E FP
820 JEFFERSON
FULTON, MO 65251
314-642-6691
GISH, E R GP
5 E 5TH ST
FULTON, MO 65251
314-642-5350
GROCE, GEO D FP
820 JEFFERSON ST
FULTON, MO 65251
314-642-6691
HOR, PARIMAL K GP
FULTON STATE HOSPITAL
FULTON, MO 65251
314-642-3311
JACKSON, VERNON B OPH
STATE HOSPITAL #1
FULTON, MO 65251
314-642-3311
LEE, SOO-JA PTH
FULTON STATE HOSPITAL
FULTON, MO 65201
314-642-3311
OSBOURN, RICHARD A FP
8208 JEFFERSON
FULTON, MO 65251
314-642-6621
PARULEKAR, DILIP G GS
506 JEFFERSON ST.
FULTON, MO 65251
314-642-8505
PETERSON, DONALD B P
1 COUNTRY CLUB DR
FULTON, MO 65251
RITTERBUSCH, JAMES K GS
STATE HOSP #1
FULTON, MO 65251
314-642-3311
WOOD, GEO F GP
1700 PLAZA DR
FULTON, MO 65251

042—CAPE GIRARDEAU

ADAMS, RILEY R AN
P.O. BOX 751
CAPE GIRARDEAU, MO 63701
314-335-0185
*ASHER, KENNETT GP
BROADRIDGE ROAD
JACKSON, MO 63755
314-243-8408
ASHLEY, HUGH V GP
425 FRANKLIN ST
CAPE GIRARDEAU, MO 63701
314-335-5609
BAERWALD, W H R
1700 BERTLING
CAPE GIRARDEAU, MO 63701
BAHN, CHAS F GE
14 DOCTOR'S PARK
CAPE GIRARDEAU, MO 63701
314-334-9641
BARTON, JOHN L P
1820 SCOTT'S LANE
CAPE GIRARDEAU, MO 63701
314-651-6154
BLANKENSHIP, DALE M FP
12 DOCTORS PARK
CAPE GIRARDEAU, MO 63701
314-335-7030

---

* Doctor of Osteopathy.

BOWMAN, W K CO
14 DOCTORS PARK
CAPE GIRARDEAU, MO 63701
314-334-9641
BREWER, NELSON S IM
#14 DOCTORS' PARK
CAPE GIRAROEAU, MO 63701
314-334-9641
BROWN, MIKE J OR
1549 LEXINGTDN
CAPE GIRARDEAU, MD 63701
BURCHAM, TOM R FP
RT 1 BOX 168
FARMINGTON, MO 63640
314-335-1251
BURFORD, EOWIN K FP
2424 TERRY HILL
CAPE GIRAROEAU, MO 63701
314-335-1251
CAMPBELL, EOWARO D CRS
937 BROADWAY
CAPE GIRARDEAU, MO 63701
314-335-5361
CHAPMAN, JEAN A A
35 DOCTORS' PARK
CAPE GIRARDEAU, MD 63701
314-335-1218
CLARK, DAVID J GS
SURGICAL CLINIC
NO 10 DOCTDRS PARK
CAPE GIRARDEAU, MO 63701
314-334-3074
COCHRAN, J R FP
2452 BROOKWDOD
CAPE GIRARDEAU, MO 63701
314-334-4822
COULSON, FOREST H IM
36 DOCTORS PARK
CAPE GIRARDEAU, MO 63701
314-334-5009
COZEAN, CHARLES H OPH
#56 DOCTORS' PARK
CAPE GIRARDEAU, MO 63701
314-334-4401
CRDWE, JDHN T FP
937 BRDADWAY
CAPE GIRARDEAU, MO 63701
314-334-4424
CUNDIFF, HARRY C JR DPH
2010 SARAH DR.
CAPE GIRARDEAU, MO 63701
314-334-5265
CUPPLES, TOMMY E OR
C/O SHDSS RADIDLOGY GROUP
36 DOCTORS' PARK
CAPE GIRARDEAU, MO 63701
DE FELICE, CHARLES E CD
#14 DOCTORS PARK
CAPE GIRAROEAU, MO 63701
314-334-9641
OINKENS, JAMES A PD
23 DOCTORS PARK
CAPE GIRARDEAU, MO 63701
314-334-7796
DOWNEY, JDN P FP
60 OOCTORS PARK
CAPE GIRARDEAU, MO 63701
314-334-1123
DZUR, JAMES R IM
14 DOCTORS PARK
CAPE GIRAROEAU, MO 63701
314-334-9641
EDWARDS, DONALO E IM
937 BROADWAY
CAPE GIRAROEAU, MO 63701
314-334-7194
ELLER, GORDON W ORS
#48 DOCTDRS' PARK
CAPE GIRARDEAU, MO 63701
314-335-8257
ESSMYER, JOSEPH K AN
P. O. BOX 877
145 MT. AUBURN RD.
CAPE GIRARDEAU, MO 63701
314-335-3070
FELKER, J. R U
3238 LAKEWOOD OR
CAPE GIRARDEAU, MO 63701
314-334-7748
GARONER, ROBERT E N
35 DOCTORS' PARK
CAPE GIRARDEAU, MO 63701
314-651-3188
GLENN, THEDDORE J P
1922 SHERWODO AVENUE
CAPE GIRARDEAU, MO 63701
314-335-7899
HARTMANN, HELMUT GP
1834 BROADWAY
CAPE GIRARDEAU, MO 63701
314-651-3650
HOLCOMB, JOHN K FP
35 DDCTORS PARK
CAPE GIRARDEAU, MO 63701
314-334-1123
HONAAS, TRYGVE O GE
60 DOCTOR'S PARK-LOWER LEVEL
CAPE GIRARDEAU, MO 63701
314-334-2801

HORN, PAUL C PTH
SFMC-PATHDLOGY
211 ST. FRANCIS DR.
CAPE GIRARDEAU, MO 63701
314-334-2886
HUNT, ROBERT S GS
10 OOCTORS PARK
CAPE GIRARDEAU, MO 63701
314-334-3074
JAEGER, JOS N GP
STATE HWY D
JACKSDN, MD 63755
314-243-4232
JOHNSON, E O R
937 BROAOWAY
CAPE GIRARDEAU, MD 63701
314-335-6671
JOHNSDN, EARL W R
36 DOCTORS' PARK
CAPE GIRARDEAU, MO 63701
314-335-6671
JUNG, CHRISTOPHER H OTO
#1 DOCTORS PARK
CAPE GIRAROEAU, MO 63701
314-334-7173
JUNG, J M OPH
21 DOCTORS PARK
CAPE GIRARDEAU, MO 63701
314-334-5265
KAMATH, K P S P
#35 DOCTOR'S PARK
CAPE GIRARDEAU, MO 63701
KASTEN, MARK C FP
1253 SAILER CIRCLE
CAPE GIRARDEAU, MO 63701
314-334-4766
KASTEN, MELVIN C GS
10 DDCTORS PARK
CAPE GIRARDEAU, MO 63701
314-334-3074
*KASUKDNIS, JOHN E GP
P. O. BOX 236
RR #1
LUTESVILLE, MO 63762
314-335-1251
KEIM, J H IM
1845 WOODLAWN
CAPE GIRARDEAU, MO 63701
314-335-2661
KIES, RICHARO OPH
1819 BROADWAY ST.
CAPE GIRARDEAU, MO 63701
KINDER, JAMES A PD
937 BROADWAY
CAPE GIRARDEAU, MO 63701
314-334-3300
KINDER, JERRY L GS
10 DOCTORS PARK
CAPE GIRARDEAU, MO 63701
314-334-3074
KOLOYS, KENNETH W O
35 OOCTORS PARK
CAPE GIRARDEAU, MO 63701
314-334-2833
KRATZ, PAUL E DBG
2560 GORDONVILLE RD
CAPE GIRARDEAU, MO 63701
314-334-5700
LANE, TIMOTHY G GE
60 OOOCTROS PARK, SUITE A-2
CAPE GIRARDEAU, MD 63701
314-334-9641
LEE, DAVID Y. S. N
35 DOCTORS' PARK
CAPE GIRARDEAU, MO 63701
314-651-3188
LOVINGGODD, THOS A PTH
6-1 DDCTDRS PARK
CAPE GIRARDEAU, MO 63701
314-334-2886
LYSKOWSKI, MARIA M P
2301 BELLERIOGE DR.
WDOOLAND HILLS
CAPE GIRAROEAU, MO 63701
314-651-6154
MAGALETTA, GEO E OBG
937 BROADWAY
CAPE GIRARDEAU, MO 63701
314-334-2864
MANGUNTA, VIJAYA K P
BOX 534K ROUTE 2
CAPE GIRARDEAU, MO 63701
314-334-0124
MARIETTA, WILLIAM G CD
1936 BRDADWAY SUITE B
CAPE GIRARDEAU, MO 63701
314-334-9127
MARTIN, RICHARO A OTO
#17, DDCTDRS' PARK
CAPE GIRARDEAU, MO 63701
314-335-4448
MAULDIN, OLIN B JR PO
35 OOCTORS' PARK
CAPE GIRARDEAU, MO 63701
314-335-8006
MC DONALD, EUGENE F GP
930 JACKSON TRAIL
JACKSON, MO 63755
314-243-2323

MC GINTY, CHAS P GS
10 DOCTORS PARK
CAPE GIRARDEAU, MD 63701
314-334-3074
MC INTDSH, DOUGLAS A EM
1310 BROOKSHIRE RD.
CAPE GIRARDEAU, MO 63701
MOORE, RICHARD E AN
P.O. BOX 877
145 MT AUBURN RD
CAPE GIRAROEAU, MO 63701
314-335-3070
DEHLER, WILLIAM F GP
213 N SPRIGG ST
CAPE GIRAROEAU, MO 63701
314-335-8338
DTTO, THOMAS G ORS
#48 DOCTDRS' PARK
CAPE GIRARDEAU, MO 63701
314-334-8257
PALEN, JAMES E FP
35 DOCTORS' PARK
CAPE GIRARDEAU, MO 63701
314-335-0166
PARSDNS, D L FP
35 DOCTDRS PARK
CAPE GIRARDEAU, MO 63701
314-334-1123
PHILLIPS, STEPHEN W OR
937 BROAOWAY
CAPE GIRARDEAU, MO 63701
314-335-6671
PRINGLE, SCOT G OBG
55 DOCTORS' PARK
CAPE GIRARDEAU, MD 63701
314-334-5249
*RAMSEY, JESSE R PD
NO. 35 OOCTDR'S PARK
CAPE GIRAROEAU, MO 63701
314-335-8006
RAWLINS, FRED E OBG
1912 BROADWAY
CAPE GIRARDEAU, MO 63701
314-334-5056
REIMER, DONALD R AN
#30 DOCTORS PARK
CAPE GIRAROEAU, MO 63701
314-334-3074
RIDINGS, G R TR
937 BROAOWAY
CAPE GIRARDEAU, MO 63701
314-334-1669
RIOINGS, HAROLO D IM
937 BROADWAY
CAPE GIRARDEAU, MO 63701
314-335-7868
RINGER, CARL N OPH
2022 ALLEN OR.
CAPE GIRARDEAU, MD 63701
314-334-5265
RITTER, C J IM
14 DOCTDRS PARK
CAPE GIRAROEAU, MD 63701
314-334-9641
RITTER, CARL F R
36 DOCTORS' PARK
CAPE GIRAROEAU, MD 63701
314-334-6071
RITTER, RAY A JR ORS
#48 OOCTDRS'S PARK
CAPE GIRARDEAU, MO 63701
314-335-8257
RITTER, RAYMOND A SR ORS
2542 ALLENOALE OR
CAPE GIRAROEAU, MO 63701
314-335-8257
ROBERTS, PERRY T OTO
P.O. BOX 1429
CAPE GIRAROEAU, MO 63701
314-334-7718
ROBINSON, RDNALO L IM
1117 PATRICIA
CAPE GIRARDEAU, MD 63701
314-335-0174
SCHOENBERGER, JOHN R IM
937 BROAOWAY
MEDICAL ARTS BLDG.
CAPE GIRAROEAU, MO 63701
314-335-7868
SCHULTZ, GEORG C PO
402 N. SUNSET BLVD.
CAPE GIRAROEAU, MO 63701
314-334-7796
SEABAUGH, L R U
2575 MEADDW LANE
CAPE GIRARDEAU, MO 63701
314-335-8241
SEABAUGH, WM O GS
P.O.BDX 1144
CAPE GIRARDEAU, MO 63701
314-334-4471
SHAKIL, MDHAMMAD N
2331 BELLERIDGE PIKE
CAPE GIRAROEAU, MO 63701
314-334-7175
SHDSS, MILTDN R
36 DOCTORS'S PARK
CAPE GIRARDEAU, MO 63701
314-335-6671

---

* Doctor of Osteopathy.

SIDES, STANLEY D IM
14 DOCTORS PARK
CAPE GIRARDEAU, MO 63701
314-334-9641

SMITHSON, DEBRA S FP
35 DOCTORS' PARK
CAPE GIRARDEAU, MO 63701

SMUCKLER, ALAN L IM
#14 DOCTOR'S PARK
CAPE GIRARDEAU, MO 63701

SPARKMAN, THOMAS C FP
15 DOCTORS PARK
CAPE GIRARDEAU, MO 63701
314-334-6053

SPENCE, PAUL A FP
60 DOCTORS PARK
CAPE GIRARDEAU, MO 63701
314-334-1123

SPITLER, ALLEN L CD
25 DOCTOR'S PARK
CAPE GIRARDEAU, MO 63701
314-334-6008

STAHR, WILLIAM D PTH
2005 SARA
CAPE GIRARDEAU, MO 63701

SWINFARD, RONALD W D
804 SYCAMORE LANE
COLUMBIA, MO 65201

TALBERT, CLIFFORD R CD
25 DOCTORS' PARK
CAPE GIRARDEAU, MO 63701
314-334-6008

TAYLOR, PHILIP W RHU
14 DR. PARK
CAPE GIRARDEAU, MO 63701
314-334-9641

TERRY, JAMES W U
18 DOCTORS PARK
CAPE GIRARDEAU, MO 63701
314-334-7748

*TEWIS, HUEY D AN
BOX 539 P TWIN LAKES RT 2
CAPE GIRARDEAU, MO 63701
314-335-0185

THORPE, WILLIAM P ORS
48 DOCTOR'S PARK
CAPE GIRARDEAU, MO 63701
314-335-8257

*TOOKE, DIXIE J EM
220 SUNSET
CAPE GIRARDEAU, MO 63701

TRANTHAM, DAVID M EM
ST. FRANCIS MED CTR.
ST. FRANCIS DR.
CAPE GIRARDEAU, MO 63701
314-335-1251

TRUEBLOOD, MICHAEL C ORS
#48 DOCTORS' PARK
CAPE GIRARDEAU, MO 63701
314-335-8257

TYGETT, JOS N DBG
211 N. SPRIGG
CAPE GIRARDEAU, MO 63701
314-334-5012

VARGAS, JAIME P
2924 CUESTA DR.
CAPE GIRARDEAU, MO 63701

WEEKS, GEO R AN
P. O. BOX 877
145 MT AUBURN RD
CAPE GIRARDEAU, MO 63701
314-335-3070

WHITTEN, J S OBG
55 DOCTORS PARK
CAPE GIRARDEAU, MO 63701
314-334-5249

WILLIAMSON, JOHN C U
#3 DOCTORS PARK
CAPE GIRARDEAU, MO 63701
314-334-7748

WILSON, CHAS F IM
714 BROADWAY
CAPE GIRARDEAU, MO 63701
314-335-2049

WOLFF, PAUL G OPH
90 E. CAPE ROCK DRIVE
CAPE GIRARDEAU, MO 63701
314-335-9175

ZOFFUTO, ANTHONY C IM
14 DR'S PARK
CAPE GIRARDEAU, MO 63701
314-334-9641

046—CHARITON-MACON-MONROE-RANDOLPH

AGUILERA, TRINIDAD J GS
1513 UNION
MOBERLY, MO 65270
816-263-7654

AHAD, KHANDAKER A OPH
643 N. MORLEY ST.
MOBERLY, MO 65270
816-263-5363

BADE, BRUCE IM
1513 UNION AVE.
SUITE 1600
MOBERLY, MO 65270
816-263-4040

BAKER, JOSEPHINE D AN
614 FISK ST
MOBERLY, MO 65270
816-263-5267

BARNETT, FLOYD A GP
111 E MONROE ST
PARIS, MO 65275
816-327-4214

BAUTISTA, ROGELIO L GS
324 CIRCLE DR
MOBERLY, MO 65270
816-263-2650

CAMPBELL, JAMES E GP
1101 JACKSON ST
MACON, MO 63552
816-385-3141

CHUTE, WM D PD
528 W. CARPENTER
MOBERLY, MO 65270
816-263-5149

COHRS, CLARENCE C A
423 E LOGAN
MOBERLY, MO 65270
816-263-1747

COLLINS, GRETCHEN D FP
605 N RUTHERFORD ST
MACON, MO 63552
816-385-3141

DREYER, PHILIP V GP
208 SHORT ST
HUNTSVILLE, MO 65259
816-277-4202

EGGLESTON, DONALD E GP
410 N RUTHERFORD
MACON, MO 63552
816-385-2523

FLEMING, DAVID A IM
1513 UNION ST.
MOBERLY, MO 65270
816-263-4040

FLEMING, JACOB W IM
1513 UNION AVE.
MOBERLY, MO 65270
816-263-4040

FLEMING, THOS S CD
7118 N. UPPER SKYLINE DR.
C/O IBEN
PEORIA, IL 61614
816-263-5610

HUBER, LASLEY E GP
223 N WILLIAMS
MOBERLY, MO 65270

HUDSON, GIP R GP
201 SOUTH MAIN
P.O. BOX 143
HUNTSVILLE, MO 65259
816-277-3777

KAYS, KENNETH M R
1729 LAKEWOOD DR.
MOBERLY, MO 65270
314-443-4591

LAMONDA, GARY W IM
ROUTE #1
HARRISBURG, MO 65256
816-263-4040

LEE, SOOK-LA AN
P.O. BOX 534
MACON, MO 63552
816-385-5778

LIN, C H OBG
1513 UNION
MOBERLY, MO 65270
816-263-7087

LIN, H T IM
1313 UNION AVE., SUITE 1200
MOBERLY PROF. ARTS BLDG
MOBERLY, MO 65270
816-263-1340

MENGEL, CHARLES E IM
1513 UNION AVE.
MOBERLY, MO 65270
816-263-4040

MILLER, D H P
8555 S LEWIS
APT 201
TULSA, OK 74136

SHIN, DONG-SOO GS
P.O. BOX 534
MACON, MO 63552
816-385-5778

STUART, DANL D GP
103 E VINE
BRUNSWICK, MO 65236
816-548-3800

TOMPSON, ROBT V GS
1513 UNION AVE.
MOBERLY PROF ARTS BLDG.
MOBERLY, MO 65270
816-263-6310

050—CLAY-PLATTE

ADAMS, HOWARD D GP
WESTOWNE II
LIBERTY, MO 64068
816-781-4878

ALBANI, FRANK J U
WESTOWNE IV
LIBERTY, MO 64068
816-781-8400

ALLAIN, JAMES J OPH
2700 HOSPITAL DR SUITE 400
N KANSAS CITY, MO 64116
816-842-6399

ALLAN, JAMES R GP
1000 NORTH JESSE JAMES
STE. 3
EXCELSIOR SPGS, MO 64024
816-637-3123

ALLEN, LOUIS A PTH
2800 HOSPITAL DR
KANSAS CITY, MO 64116
816-474-5656

ANDREWS, BERNEIL W U
2 N.W. 43RD ST.
KANSAS CITY, MO 64116
816-452-2175

ARMSTRONG, JAY H R
4812 BLACK SWAN DR
SHAWNEE MISSION, KS 66216
913-631-2867

ARST, HERBERT E IM
408 E 68TH ST N
KANSAS CITY, MO 64118
816-436-6767

BALHUIZEN, JOHN PUD
2920 N.E. 60TH ST.
KANSAS CITY, MO 64119
816-452-7557

BATES, GEO C CD
2700 HOSPITAL DR STE 53
NORTH KANSAS CI, MO 64116
816-421-4240

BENSON, LARRY E IM
2700 HOSPITAL DR STE 24
NO. KANSAS CITY, MO 64116
816-741-6611

BOONE, DANL C OM
5800 N GRAND AVE
KANSAS CITY, MO 64118
816-453-4069

BOWLES, RICHARD P FP
114 N WATER ST
LIBERTY, MO 64068
816-781-4740

BOWNIK, THEODORE B IM
2700 HOSPITAL DR
SUITE 530
KANSAS CITY, MO 64116
816-421-4240

BOWSER, ROBERT L AN
17421 MEDICAL CENTER PARKWAY
INDEPENDENCE, MO 64057

BRECKENRIDGE, ROBERT L PTH
SUITE 100 2700 HOSPITAL DR.
KANSAS CITY, MO 64116
816-474-5656

BRILL, JOACHIM R PD
WESTOWNE III SUITE 102
LIBERTY, MO 64068
816-781-7979

BURK, EMMETT K IM
WESTOWNE III
LIBERTY, MO 64068
816-781-8100

BURROUGHS, NATHAN D OTO
2700 HOSPITAL DRIVE
NO KANSAS CITY, MO 64116
816-421-0540

CALHOUN, TERRY L IM
5601 N ANTIOCH RD.
SUITE 12
KANSAS CITY, MO 64119
816-453-6100

CASHIER, DWIGHT GP
P. O. BOX 990
PLATTE CITY, MO 64079
816-464-2313

CASTILLO, MICHAEL E OPH
WESTOWNE V SUITE 501
LIBERTY, MO 64068
816-781-9120

CHATKUPT, SUTHON GS
1205 N JESSE JAMES RD
EXCELSIOR SPRIN, MO 64024
816-637-2155

CHILES, DAVID R GP
620 COMMERCIAL AVE
SMITHVILLE, MO 64089
816-532-0200

COOK, JERRY W OPH
7010 N CHERRY
KANSAS CITY, MO 64118
816-436-4204

COOPER, BARRY R DR
2800 HOSPITAL DR
NORTH KANSAS CI, MO 64116
816-221-1600

COOPER, GARY D GE
SUITE 100 WESTOWNE III
LIBERTY, MO 64068
816-781-8100

CSAKI, BELA GS
ROUTE 5, BOX 109
LIBERTY, MO 64068
816-781-7960

CURNOW, RICHARD B ORS
WESTOWNE OFFICES
LIBERTY, MO 64068
816-781-6066

---

* Doctor of Osteopathy.

DEL MURO, FRANCISCO GP
5601 ANTIOCH RD STE 8
KANSAS CITY, MO 64119
816-454-1300

OELIGEORGES, JOHN OPH
7010 N CHERRY
KANSAS CITY, MO 64118
816-436-4204

OENTON, ROBT E GS
620 S. COMMERCIAL
SMITHVILLE, MO 64089
816-532-4540

OEVINE, MARK W OTO
2700 HOSPITAL DR
NORTH KANSAS CI, MO 64116
816-421-0540

OUNHAM, ROBT H GP
6022 ANTIOCH RO
KANSAS CITY, MO 64119
816-454-1500

OY-RAGOS, RAMON R NS
10106 NW 74TH ST
KANSAS CITY, MO 64152
816-587-8409

EOWAROS, THEODORE F PO
2029 BURLINGTON AVE
NORTH KANSAS CI, MO 64116
816-474-9418

FAKHOURY, DONALO A GP
4030 N OAK ST TRAFFICWA
KANSAS CITY, MO 64116
816-453-0900

FISCHER, EOWARO H CD
2929 BALTIMORE
KANSAS CITY, MO 64108
816-756-0695

FISCHER, JOSE M P
2900 HOSPITAL DRIVE
SUITE 510
NO. KANSAS CITY, MO 64116
816-474-9921

FLANOERS, VIRGIL E FP
5601 N. E. ANTIOCH RO.
KANSAS CITY, MO 64119
816-453-1770

FORTIN, DON G PS
2900 N.E. 60TH ST.
SUITE 204
KANSAS CITY, MO 64119
816-455-3062

FOWLER, I C OM
631 FT. DUQUESNA OR.
SUN CITY CENTER, FL 33570

GAUER, ROBT J PD
5601 ANTIOCH RO
KANSAS CITY, MO 64119
816-453-3000

GERAGHTY, THOMAS E PS
2900 NE 60TH ST.
KANSAS CITY, MO 64119
816-455-3062

GUKHOOL, PREMLALL OR
RAOIOLOGY OEPARTMENT
2525 GLENN HENORIN OR.
LIBERTY, MO 64068
816-781-7200

HAAS, ROBERT W ORS
SUITE R WESTOWNE OFFICE
LIBERTY, MO 64068
816-781-6066

HAGAN, JOHN C OPH
2700 HOSPITAL OR
NO KANSAS CITY, MO 64116
816-421-0900

HALEY, TEO M GP
405 E 19TH AVE
KANSAS CITY, MO 64116
816-471-2414

HARVEY, THOMAS S GP
540 MAIN
WESTON, MO 64098
816-386-2284

HAYES, LAWRENCE L GP
8630 N OAK ST TRFWY
KANSAS CITY, MO 64155
816-436-1800

HEDGES, RICHARO C OM
2025 SWIFT
NORTH KANSAS CI, MO 64116
816-221-0058

HENDREN, THOS H GS
WESTOWNE III STE 101
LIBERTY, MO 64068
816-781-3515

HENRY, JOS E IM
8901 W. 74TH ST.
SUITE 348
SHAWNEE MISSION, KS 66208
913-432-8000

HODGE, ROBT H IM
2204 NE 39TH ST
KANSAS CITY, MO 64116
816-452-1362

*HYMAN, HENRY T OBG
5140 N.E. ANTIOCH RD.
KANSAS CITY, MO 64119
816-452-7300

KATF, NICOLA Y P
TRI-CO. COMM MENTAL HEALTH
2900 HOSPITAL OR.
KANSAS CITY, MO 64116
816-444-4082

KAUK, BRUCE A IM
2029 BURLINGTON
NO. KANSAS CITY, MO 64116
816-474-9232

KELLY, JOSEPH G AN
P O BOX 295
LIBERTY, MO 64068

KIMBALL, IRELANO W FP
5621 VALLEY RO N.W.
KANSAS CITY, MO 64151
816-221-1600

KIMBALL, JAY W FP
6506 N.W. PRAIRIE VIEW
KANSAS CITY, MO 64151
816-741-5542

KIRKLANO, JERRY A IM
8630 NORTH OAK
KANSAS CITY, MO 64155
816-436-1800

KOBBERMANN, THOMAS W OBG
2700 HOSPITAL OR.
SUITE 500
NO. KANSAS CITY, MO 64116
816-474-5310

KUENZI, DONALO E FP
8630 N OAK TRFWY
KANSAS CITY, MO 64155
816-436-1800

*LANOERS, GARY A EM
2800 HOSP OR
NO. KANSAS CITY, MO 64116
816-221-1600

LATIMER, WALTER N PO
5140 NE ANTIOCH RO
KANSAS CITY, MO 64119
816-454-6600

LESLIE, STEPHEN A POA
6401 N. PROSPECT
GLADSTONE, MO 64119
816-454-5200

LILA, ARAM IM
1205 N JESSE JAMES RO
EXCELSIOR SPGS., MO 64024
816-637-2155

LITTLEJOHN, ROBERT T ORS
2700 HOSPITAL DR
NO. KANSAS CITY, MO 64116
816-474-5240

MC CALLA, JOHN P AN
649 HUNTINGTON RD
KANSAS CITY, MO 64113
816-361-4543

MC CANSE, LYNN R U
SUITE 200
2700 HOSPITAL OR.
NO. KANSAS CITY, MO 64116
816-842-6717

MC CLUGGAGE, NEWTON C IM
2700 HOSPITAL OR
NO. KANSAS CITY, MO 64116
816-421-4240

MC CORMICK, JAMES E GP
4030 N OAK ST
KANSAS CITY, MO 64116
816-453-0900

MC CRAY, STEPHEN A AN
4404 NW BRIARCLIFF LANE
GLAOSTONE, MO 64116
816-453-4688

MC GOVNEY, JANICE K IM
SPELMAN PROFESSIONAL BLDG.
SMITHVILLE, MO 64089
816-532-3700

MC PHEE, WM R PTH
1205 W 76TH ST
KANSAS CITY, MO 64114
816-363-2538

MULLINS, BERNARD L GP
405 E 19TH ST
NO. KANSAS CITY, MO 64116
816-471-2414

MYERS, CARL M FP
PLATTE MEOICAL CLINIC
P O BOX 990
PLATTE CITY, MO 64079
816-464-2313

MYERS, OAVIO W OBG
610 S COMMERCIAL AVE
SMITHVILLE, MO 64089
816-532-4700

NOURBAKHSH, MAHMOUO M GS
405 E 19TH AVE
NO KANSAS CITY, MO 64116
816-471-0909

PATTERSON, CARROLL D P
SUITE 202
WESTOWNE IV
LIBERTY, MO 64068
816-781-1100

PILEGGI, FELIX A GP
405 E 19TH ST
NO. KANSAS CTIY, MO 64116
816-471-2414

PINGLETON, WILLIAM W PUO
8901 W. 74TH ST.
SUITE 348
SHAWNEE MISSION, KS 66204
913-432-8000

PIONTEK, JAMES F AN
615 NASHVA ROAO
LIBERTY, MO 64068
816-781-0858

PRATHER, WILLIAM R IM
1500 N. E. PARVIN
N KANSAS CITY, MO 64116
816-452-4000

PRICKETT, OAVID C JR EM
N KANSAS CITY MEM HOSP.
2800 HOSPITAL DR
KANSAS CITY, MO 64116
816-587-1000

PURCELL, PAUL W GP
P O BOX O-2
SMITHVILLE, MO 64089

REEDER, CHAS C GP
620 COMMERCIAL AVENUE
SMITHVILLE, MO 64089
816-532-0200

REVARE, PAUL FP
SPELMAN MEM HOSP
SMITHVILLE, MO 64089

ROBINSON, VAN M OBG
300 PROFESSIONAL BLDG
2700 HOSPITAL ORIVE
KANSAS CITY, MO 64116
816-842-0900

ROCKWELL, WAYNE L OBG
2700 HOSPITAL ORIVE
KANSAS CITY, MO 64116
816-474-5310

ROOAS, RIZALINA PO
2700 HOSPITAL OR
KANSAS CITY, MO 64116
816-421-0188

ROSS, WALTER R JR PUO
SUITE 100
WESTOWNE III
LIBERTY, MO 64068
816-781-8100

RUSSELL, NANCY R IM
1500 N.E. PARVIN RO.
KANSAS CITY, MO 64116
816-452-4000

SANDERS, GEO E GP
617A WILLOW OR
LEE'S SUMMIT, MO 64063
816-524-0769

SAWYER, FLOYD E PD
5350 N OAK ST TRAFFICWA
KANSAS CITY, MO 64118
816-452-4040

SCHERTZ, TRUMAN B OPH
2700 HOSPITAL OR STE 400
NO. KANSAS CITY, MO 64116
816-221-7880

SCHUTZ, JOHN P US
1236 JESSE JAMES ROAO
EXCELSIOR SPGS, MO 64024
816-637-6023

SIEGEL, CHARLES PO
5601 N. ANTIOCH RO.
GLADSTONE, MO 64119
816-453-7771

SIMON, GRACITA S AN
1020 N WOODLANO OR
KANSAS CITY, MO 64118
816-453-3700

SLAUGHTER, CARL R OBG
5601 N.E. ANTIOCH RO.
SUITE 1
KANSAS CITY, MO 64119
816-453-1870

*SMITH, CHAS H OM
2025 SWIFT
KANSAS CITY, MO 64116
816-221-0058

SOMOZA, JOSE R PTH
15 N E HILL ST
KANSAS CITY, MO 64116
816-452-5656

SOPER, WM O FP
11 WESTOWNE CTR
LIBERTY, MO 64068
816-781-7730

SPORTSMAN, WELDON L A
7504 N OAK ST TRFY
KANSAS CITY, MO 64118
816-436-7100

STRATMAN, CLARENCE A FP
6002-A N ANTIOCH RO
KANSAS CITY, MO 64119
816-454-2666

TANEY, GARY W OBG
2700 HOSPITAL DR
SUITE 5
NO. KANSAS CITY, MO 64116
816-474-5310

THOMAS, FREO A D
5601 N ANTIOCH
KANSAS CITY, MO 64119
816-454-3424

---

* Doctor of Osteopathy.

THDMAS, THDMAS C GP
104 S. FOREST AVE.
LIBERTY, MO 64068
816-781-6127
THURMAN, HILL C GP
6600 TDWER DR
PARKVILLE, MO 64152
816-741-3101
TRIPLETT, DANL A OBG
2700 HDSP DR STE 500
NO. KANSAS CITY, MD 64116
816-474-5310
TRUE, JAMES D P
1519 OAK
KANSAS CITY, MD 64108
816-221-1600
TUMANUT, BENESTD F OTO
504 NE 70
GLADSTDNE, MD 64118
816-436-2727
UNDERWOOD, JOHNSDN GS
5140 N E ANTIDCH RD
KANSAS CITY, MO 64119
816-453-4000
VILMER, CHARLES E ORS
2030 SWIFT AVE
NORTH KANSAS CI, MD 64116
816-842-8404
VILMER, STEPHEN E ORS
7550 W. 99TH TERR
SHAWNEE MISSION, KS 66212
913-341-5527
WALKER, DONALO E JR P
2900 HOSPITAL DR.
N KANSAS CITY, MO 64116
816-474-5747
WALTZ, JAMES R GS
WESTOWE III SUITE 101
LIBERTY, MO 64068
816-781-3515
WATERMAN, FRANKLIN M GP
101 W KANSAS
LIBERTY, MD 64068
816-781-4557
WEBB, JOHN M GS
525 PROFESSIONAL BLDG N
2700 HOSPITAL OR
KANSAS CITY, MO 64116
816-474-6464
WEIOE, ALLAN R U
P.O.BOX 12361
2700 HOSP DR-SUITE 200
NO. KANSAS CITY, MO 64116
816-842-6717
WERNER, DEAN F OM
2025 SWIFT AVE
NORTH KANSAS CI, MO 64116
816-221-0058
WERNER, FRANKLIN C GS
5140 ANTIDCH RD
KANSAS CITY, MO 64119
816-453-4000
WHEELER, PAUL O OBG
2700 HOSPITAL DR SUITE
KANSAS CITY, MD 64116
816-474-5310
WICKS, EOWIN O PH
506 NW 43RD ST
KANSAS CITY, MO 64116
816-454-4346
WILLIAMS, JOHN M GP
102 S FOREST
LIBERTY, MO 64068
816-781-4711
WILLIAMS, ROBT D TS
6700 TRODST AVE
KANSAS CITY, MO 64131
816-333-9332
WILLIAMSON, GEO L ORS
2030 SWIFT
KANSAS CITY, MO 64116
816-842-8404
WILSON, DAVID E FP
8630 N OAK TRAFFICWAY
KANSAS CITY, MO 64155
816-436-1800
WILSON, TIMOTHY A FP
8160 PRAIRIE VIEW RD
KANSAS CITY, MO 64151
816-532-3700
WITHROW, JOHN B FP
3925 N MAIN
KANSAS CITY, MO 64116
816-452-2455
WOEHL, JDS J N
SUITE 311
4320 WDRNALL RO.
KANSAS CITY, MO 64111
816-756-0997
WOLFRAM, PHILIP H GP
620 COMMERCIAL ST
SMITHVILLE, MO 64089
816-532-0200
WORKMAN, CHAS E ORS
2800 ROCKCREEK PKWY #603
N. KANSAS CITY, MO 64117
816-421-4880
WOY, GEDRGE H DRS
SUITE 700 WESTOWNE VII
LIBERTY, MD 64068
816-781-5877
WRIGHT, EARL J PTH
2800 HOSPITAL ORIVE
KANSAS CITY, MO 64116
816-474-5656

054—CLINTON

LUCKENBILL, PAUL T GP
BDX 353
PLATTSBURG, MD 64477
OZENBERGER, LARRY A GP
400 CLAY AVE
PLATTSBURG, MD 64477
SPALOING, WILBER B GP
PLATTSBURG, MD 64477
SWEIGER, JAMES H GP
RDUTE 1
PLATTSBURG, MO 64477

058—COLE

AKHTER, MDHAMMAD N GPM
2400 LYNNWODO DR.
COLUMBIA, MO 65201
314-442-0974
ALLAN, JAMES E FP
2709 INDUSTRIAL DR.
SUITE A
JEFFERSON CITY, MO 65101
314-893-5535
BELDEN, EDGAR A PH
2124 LOWELL
JEFFERSON CITY, MO 65101
BELSHE, SID B DR
ST. MARY'S HEALTH CTR.
610 W. ELM
JEFFERSON CITY, MO 65101
314-635-8141
BOYER, PETER A IM
1505 SOUTHWEST BLVO
JEFFERSON CITY, MO 65101
314-634-2620
BRAUN, ALAN L IM
2709 INOUSTRIAL
JEFFERSON CITY, MO 65101
314-893-3634
BREGANT, ROBT E IM
1505 SDUTHWEST BLVD
JEFFERSON CITY, MO 65101
314-634-2620
BUSBY, WM E PD
1233 JEFFERSON
JEFFERSON CITY, MO 65101
314-634-2344
COOPER, CHAS W FP
423 CHERRY ST
JEFFERSON CITY, MO 65101
314-636-2169
COURTER, LARRY P R
ROUTE 6
JEFFERSON CITY, MO 65101
314-636-4215
COX, CURTIS S NS
1433 SOUTHWEST BLVD.
JEFFERSON CITY, MO 65101
314-636-5285
COX, WM A FP
812 SWIFTS HIGHWAY
JEFFERSON CITY, MO 65101
CRAIGHEAO, MICHAEL L GS
915 LESLIE BLVO.
JEFFERSON CITY, MO 65101
DAVISSON, WALTER F OPH
611 WEST ELM
JEFFERSON CITY, MO 65101
314-635-0115
OENTON, JOHN L OBG
1505 SOUTHWEST BLVO.
JEFFERSON CITY, MO 65101
DOERHOFF, ADELIA L AN
1111 MADISON
JEFFERSON CITY, MO 65101
314-635-5010
DOERHOFF, ALAN R GS
1111 MADISON
JEFFERSON CITY, MO 65101
314-635-5010
DOERHOFF, CARL R GS
1111 MADISON ST.
JEFFERSON CITY, MO 65101
314-635-5010
OOMKE, HENRY F FP
1314 W. EDGEWOOO OR.
P.O. BOX 1466
JEFFERSON CITY, MO 65102
314-634-5000
EXON, C S GS
1505 SOUTHWEST BLVD
JEFFERSON CITY, MO 65101
314-634-3334
FALZONE, JOHN J U
1025 NORTH EAST DRIVE
UROLOGY CARE INC
JEFFERSON CITY, MO 65101
314-636-5115
FERRIS, ROBERT E OBG
1431 SDUTHWEST BLVD.
JEFFERSDN CITY, MO 65101
314-636-5248
FILES, JAMES B PTH
14 PAGE COVE
MAUMELLE, AK 72118
501-851-3462
FULLGRABE, EMIL A GP
1914 GREEN MEADDW DR
JEFFERSON CITY, MD 65101
GARNER, ROYAL S FP
1804 SOUTHWEST BLVD
JEFFERSDN CITY, MO 65101
314-636-4181
*GIFFEN, CDR L. E FP
1915 HAYSELTON
JEFFERSON CITY, MD 65101
314-636-9178
GORDDN, JAMES S AN
600 BDONVILLE RO
JEFFERSDN CITY, MD 65101
314-635-5533
GUHLEMAN, HENRY V P
2018 GREENBERRY RD.
JEFFERSDN CITY, MO 65101
314-635-2961
GUNN, VICTORIA D
BOX 1642
JEFFERSON CITY, MO 65101
314-634-4200
HANDLER, FRED P PTH
614 BOONVILLE ROAO
JEFFERSON CITY, MO 65101
314-634-3555
HAUSER, ROBT J OBG
1431 SOUTHWEST BLVO
JEFFERSON CITY, MO 65101
314-636-5248
HENRY, LAWRENCE D PTH
BOX 39
HARTSBURG, MO 65039
314-449-2902
HERLAND, ALEXANOER OBG
703 W. MAIN ST.
FREOERICKTOWN, MO 63645
314-783-3323
HOTCHKISS, ROBERT L FP
BROADWAY STATE OFFICE BLDG.
221 W. HIGH ST.
JEFFERSON CITY, MO 65101
314-751-4330
HUGHES, DEREK P
ORS PARK
1111 MADISON
JEFFERSDN CITY, MO 65101
314-635-5773
KANAGAWA, HAROLD K IM
701 W HIGH
JEFFERSON CITY, MO 65101
314-636-7183
KLEBBA, LARRY B FP
P O BOX 403
JEFFERSON CITY, MO 65101
314-636-3231
KRAUTMANN, JOHN J ORS
1433 SOUTHWEST BLVD
JEFFERSON CITY, MO 65101
314-636-5285
LANOSBAUM, CHARLES J IM
701 W HIGH ST
JEFFERSON CITY, MO 65101
314-636-7183
LESLIE, JAMES T ORS
1433 SOUTHWEST BLVD
JEFFERSON CITY, MO 65101
314-636-5285
LOYO, EARL L IM
RIVIERA HEIGHTS
HOLTS SUMMIT, MO 65043
314-636-4090
LYSKOWSKI, JOHN C P
1101 A SOUTHWEST BLVD.
JEFFERSON CITY, MO 65101
314-634-5303
MARSHALL, WILLIAM H OBG
1431 SOUTHWEST BLVD.
JEFFERSON CITY, MO 65101
314-636-5248
MARTY, DAVID R OTO
1021 NORTHEAST DR.
JEFFERSON CITY, MO 65101
314-635-7901
MATTHEWS, JOHN I IM
1314 MOREAU DR
JEFFERSON CITY, MO 65101
314-636-7183
MC CAFFREE, MARY K IM
812 CRESTMERE
JEFFERSON CITY, MO 65101
314-634-2620
MC HANEY, JOHN W GP
1819 BROOKSIOE
JEFFERSON CITY, MO 65101
MCELROY, GEORGE L III PD
1233 SO. JEFFERSON
JEFFERSON CITY, MO 65101
314-634-2344

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* Doctor of Osteopathy.

MEIER, FRANCIS X   FP
1913 HAYSELTON DR
JEFFERSON CITY, MO 65101
314-636-9742
MILLER, DONALD   IM
701 W. HIGH ST.
JEFFERSON CITY, MO 65101
314-636-7183
OSSMAN, JULIAN A   GS
2407 W MAIN
JEFFERSON CITY, MO 65101
314-636-9742
RAGLAND, JOHN E   GP
P O BOX 517
LINN, MO 65051
314-897-2237
REA, JAMES L   OTO
1021 NORTHEAST DR.
JEFFERSON CITY, MO 65101
314-635-7901
RYAN, THOMAS J   ORS
1433 SOUTHWEST BLVD
JEFFERSON CITY, MO 65101
314-636-5285
SANDERS, JACK S   CD
1505 SOUTHWEST BLVD
JEFFERSON CITY, MO 65101
314-634-2620
SCEARCE, ROBERT L   DR
420 CRYSTAL VIEW TERR.
JEFFERSON CITY, MO 65101
314-636-4420
SCHERR, OAVID O   ORS
1111 MADISON ST
JEFFERSON CITY, MO 65101
314-634-4202
SCHMIOT, JEROME H   U
1025 NORTH EAST DRIVE
JEFFERSON CITY, MO 65101
314-636-5115
SCHOKKER, JOHANNES   GS
1431 SOUTHWEST BLVO
JEFFERSON CITY, MO 65101
314-635-9011
SCOTT, E. OAVIO   FP
2009 E MC CARTY
JEFFERSON CITY, MO 65101
314-635-2542
SHULL, G D   FP
1431 SOUTHWEST BLVO
JEFFERSON CITY, MO 65101
314-635-2222
SIU, KENNETH K   GS
915 A LESLIE BLVD
JEFFERSON CITY, MO 65101
314-635-2300
STAUFFER, HARRY B   OPH
830 BOONVILLE RO
JEFFERSON CITY, MO 65101
STAUFFER, LARRY K   OPH
700 W HIGH ST
JEFFERSON CITY, MO 65101
314-634-3221
STRICKER, HAROLO C   OBG
1431 SOUTHWEST BLVO
JEFFERSON CITY, MO 65101
314-636-5248
SU, PHILO S   OBG
418 VALLEY PARK OR
JEFFERSON CITY, MO 65101
314-893-5500
SUGARBAKER, EVERETT O   GS
503 E HIGH ST
JEFFERSON CITY, MO 65101
314-636-8542
SUMMERS, JOS S   OR
516 EAST CAPITAL AVE. #E
JEFFERSON CITY, MO 65101
314-636-2657
TANNER, ROBT H   FP
1505 SOUTHWEST BLVO
JEFFERSON CITY, MO 65101
314-636-7161
TAYLOR, LEON A   GP
1104 W MAIN ST
JEFFERSON CITY, MO 65101
TIFFANY, DELBERT E   IM
2401 E. MC CARTY
JEFFERSON CITY, MO 65101
314-751-2890
VAN VRANKEN, EUGENE E   PH
BOX 570
JEFFERSON CITY, MO 65101
314-635-5017
WANKUM, ROBERT P   OPH
1101-O SOUTHWEST BLVO
JEFFERSON CITY, MO 65101
314-634-2722
WATTS, BYRON E   R
2937 VALLEY VIEW TERR.
JEFFERSON CITY, MO 65101
314-636-4215
WEISS, JAMES J   FP
1505 SOUTHWEST BLVD
JEFFERSON CITY, MO 65101
314-636-3192
WERTH, JOS A   O
1233 JEFFERSON ST.
JEFFERSON CITY, MO 65101
314-634-2933
WESTHOFF, DAVID D   IM
1505 SOUTHWEST BLVD
JEFFERSON CITY, MO 65101
314-634-2620
WHITE, NELSON P   FP
1305 SOUTHWEST BLVD
JEFFERSON CITY, MO 65101
314-635-0181
WINEGAR, ALVON C   OBG
1603-B JEFFERSON HTS APTS
JEFFERSON CITY, MO 65101

062—COOPER

ABELE, WM A   IM
620 MAIN ST
BOONVILLE, MO 65233
816-882-7481
AVERY, WILLARD B   PD
329 MAIN ST
BOONVILLE, MO 65233
816-882-6612
HATA, DAIKICHI   IM
SIXTH & SPRING ST.
BOONVILLE, MO 65233
816-882-6612
HUMPHREYS, EDWARD T   GS
SIXTH & SPRING ST.
BOONVILLE, MO 65233
816-882-6612
JUDY, JOS O   IM
10 ADAMS SUITE 108
FERGUSON, MO 63135
STUART, BYRON M   IM
910 SHAMROCK TERRACE
BOONVILLE, MO 65233
816-882-5679
WINN, GEO W   GS
607 POPLAR
BOONVILLE, MO 65233
816-882-6218

066—DALLAS-HICKORY-POLK-DADE

ABOEL-SALAM, AHMEO S   GS
RT #1 PRAIRE HEIGHT
BOLIVAR, MO 65613
CARNELL, BILLY M   GP
BUFFALO MEO CENTER-BOX
BUFFALO, MO 65622
GRIFFIN, M E   FP
P. O. BOX E-6
BUFFALO, MO 65622
417-345-2284
GRIFFIN, OLIN A   PH
BOX E-6
BUFFALO, MO 65622
417-345-2284
KAHLER, MONTE R   GP
RT. 4, BOX 14A
BOLIVAR, MO 65613
KOON, BENNY H   FP
BOLIVAR FAMILY CARE CTR.
NORTH MAIN ST.
BOLIVAR, MO 65613
LEACH, JON R   GS
KAHLER CLINIC
708 N POMME OE TERR
BOLIVAR, MO 65613
LISTERMAN, JOHN C   FP
1228 NORTHWOOD CIRCLE
BOLIVAR, MO 65613
MC CRAW, DOYLE C   GP
711 N MAIN
BOLIVAR, MO 65613
417-326 4112
RIOS, RUTH S   FP
451 SOUTH ALBANY
BOLIVAR, MO 65613
WRIGHT, KEITH A   FP
108 N. MAIN
BOLIVAR, MO 65613
417-326-6021

070—DUNKLIN

ADUSUMILLI, NARAYANA R   IM
126 W. MAIN
MALOEN, MO 63863
314-276-5725
CASH, CHAS R   GP
OUNMIRE ANO CASH CLINIC
KENNETT, MO 63857
314-888-4981
CHENG, TUAN CHOU   U
P. O. BOX 309
KENNETT, MO 63857
314-888-4977
ENGLISH, WALLACE O   FP
P O BOX 107
CARDWELL, MO 63829
314-654-3424
KAKAIYA, DILIP H   GS
P.O. BOX 607
KENNETT, MO 63857
314-888-2628
KUO, GONG T   OBG
2201 EASTWOOD DR.
KENNETT, MO 63857
314-471-8600
MANUBAY, TEOOORO   R
204 W LINDEN CIRCLE
KENNETT, MO 63857
314-888-9823
MANUBAY, TERESITA   PD
204 W LINDEN CIRCLE
KENNETT, MO 63857
314-888-4981
MILTENBERGER, PAUL C   GS
P. O. BOX 607
KENNETT, MO 63857
314-888-2628
MOREHEAD, WM E   GP
505 N BECKWITH
MALDEN, MO 63863
314-276-2221
NGUYEN, TUYEN M   GS
P. O. BOX 607
KENNETT, MO 63857
888-2628
PALENSKE, ROBT L   GP
HORNERSVILLE, MO 63855
314-727-2281
PLUNK, OTIS A   GP
215 TEACO RO.
KENNETT, MO 63857
314-888-1511
PU, PIN H   PTH
P O BOX 827
KENNETT, MO 63857
314-888-4932
SINASA, SURAT   PTH
501 TEACO RD.
KENNETT, MO 63857
314-888-4981
SISLER, MAYNARO L   IM
217 COLLEGE
KENNETT, MO 63857
314-888-4992
SOONATTRAKUL, WUTHISAK   IM
1616 W WASHINGTON
KENNETT, MO 63857
314-888-1137
TUNGSIRIPAT, SOROS   PD
105 E. WASHINGTON ST.
KENNETT, MO 63857
314-888-9281
ZIMMERMAN, JOE A   GP
1105 WHITE OAKS PL.
KENNETT, MO 63857
314-888-4522

074—FRANKLIN-GASCONADE-WARREN

ALLEN, JERRY H   PO
800 E. FIFTH ST
SUITE 202
WASHINGTON, MO 63090
314-239-7892
AULENBACHER, CARL E   GS
800 E. 5TH SUITE 104
WASHINGTON, MO 63090
314-239-7727
BAKER, DONALO L   FP
301 HWY 50 WEST
UNION, MO 63084
314-583-2508
BAKER, GARY E   PD
800 E 5TH ST.
SUITE 304
WASHINGTON, MO 63090
314-239-7892
BANERJEE, OILIP   IM
800 E 5TH SUITE 205
WASHINGTON, MO 63090
314-239-2711
BONNEY, SAML C   EM
URGI-CARE, INC.
1801 HERITAGE HILLS CTR
WASHINGTON, MO 63090
314-239-4123
BRENNER, PAUL A   FP
108 W WASHINGTON ST
OWENSVILLE, MO 65066
314-437-2151
BRUNWORTH, OAVID   FP
10 FRANKLIN
WASHINGTON, MO 63090
314-239-2741
BURNS, STANLEY C   FP
20 HUGHES FORO RO.
SULLIVAN, MO 63080
314-468-8038
CALABIO, ADOLFO   GP
770 GALWAY
MANCHESTER, MO 63011
314-456-8914
COLTER, KIM D   FP
800 E. 5TH ST
WASHINGTON, MO 63090
314-239-4100
CRANE, JOHN B   P
1113 E. 5TH ST.
WASHINGTON, MO 63090
314-239-7705

CRAWFORO, ROBT M FP
20 HUGHES FORO RO
SULLIVAN, MO 63080
314-468-4124
DE LA TORRE, JOHN J GS
459 W SPRINGFIELD
SULLIVAN, MO 63080
314-468-6011
OIERBERG, OALE F OR
2753 AUTUMN RUN CT.
CHESTERFIELD, MO 63017
314-486-2191
EISENMANN, BENJ P FP
NEW HAVEN, MO 63068
314-237-2123
FARRELL, SAMMY L FP
10 FRANKLIN
WASHINGTON, MO 63090
314-239-2741
HOELSCHER, HAROLO F GP
304 E MAIN ST
WARRENTON, MO 63383
314-456-3340
HOUTTUIN, ERIK U
800 E. 5TH ST. SUITE 201
WASHINGTON, MO 63090
314-239-7559
KIM, YANG H OBG
800 EAST 5TH ST.
SUITE 105
WASHINGTON, MO 63090
314-239-6600
LONG, TIMOTHY P FP
BOX 308
MARTHASVILLE, MO 63357
314-433-5411
MITCHELL, THOS J FP
75 N. COMMERCIAL
ST CLAIR, MO 63077
314-629-1141
MOELLENHOFF, ROBT W IM
900 E. 8TH ST., SUITE C.
WASHINGTON, MO 63090
314-239-4300
MURNEY, JOSEPH GS
800 E. 5TH ST.
SUITE 202
WASHINGTON, MO 63090
314-239-3200
O'CONNOR, JOHN J FP
615 S. THIRD
WARRENTON, MO 63383
314-456-3340
POST, JOHN P FP
GRANO AVE.
WASHINGTON, MO 63090
314-239-4761
*RAOINSKY, STEPHEN R
141 N. MERAMEC
CLAYTON, MO 63105
314-721-0242
RAWSON, PERRY G PTH
ST FRANCIS MERCY HOSP.
WASHINGTON, MO 63090
314-239-7711
RICHAROSON, GEO A FP
301 HWY 50 WEST
UNION, MO 63084
314-583-2508
RICHAROSON, WM R FP
301 HWY 50 WEST
UNION, MO 63084
314-583-2508
RYAN, JOHN B FP
429 CEOAR
WASHINGTON, MO 63090
314-239-2368
SHAW, JAMES T FP
WEST 18TH & WEIN STS
HERMANN, MO 65041
314-486-2118
SHEA, JAMES G IM
800 E. 5TH ST.
SUITE 102
WASHINGTON, MO 63090
314-239-7500
SHORT, HOWARO N OPH
800 E 5TH ST. SUITE 301
WASHINGTON, MO 63090
314-239-1650
SINCOX, CHAS H FP
205 ELM
WASHINGTON, MO 63090
314-239-7566
SNYOER, SCOTT W AN
P. O. BOX 93
WASHINGTON, MO 63090
314-239-4826
STREHLMAN, BENJ G FP
4201 BONITA RD.#243
BONITA, CA 92002
TUCKER, LESLIE E IM
SUITE 201 800 E. FIFTH ST.
WASHINGTON, MO 63090
314-239-7344
TURNER, JAMES O FP
800 E. 5TH
WASHINGTON, MO 63090
314-239-4100

UMALI, EMILIANO C GS
205 ELM ST.
WASHINGTON, MO 63090
314-239-7878
WORKMAN, GEO M FP
P O BOX 246
18TH & WEIN ST
HERMANN, MO 65041
314-486-2118
ZAHN, FREOERICK R EM
ST FRANCIS MERCY HOSP.
200 MAOISON AVE
WASHINGTON, MO 63090
314-239-7711

078—GRAND RIVER (Caldwell-Carroll-Livingston-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb Counties)

BOHNSACK, RALPH W GP
P.O. BOX 3860
ESTES PARK, CO 80517
BROYLES, WATKINS A GP
P O BOX 352
BETHANY, MO 64424
COFER, THOS N IM
511 ELM P O BOX 905
CHILLICOTHE, MO 64601
CONRAO, JOS A GP
511 ELM ST
CHILLICOTHE, MO 64601
CROSS, ALBERT O GP
618 E FIRST ST
TRENTON, MO 64683
DALEY, FRANK R GP
HAMILTON, MO 64644
OIXON, JOHN R GS
125 E LOCKLING ST
BROOKFIELD, MO 64628
OUFFY, OLIVER F US
902 CUSTER
TRENTON, MO 64683
ELLSWORTH, WILLARO GP
CAINSVILLE, MO 64632
FAIR, WM L FP
910 CLAY ST
CHILLICOTHE, MO 64601
GALE, JOS F GP
103 11TH ST
CHILLICOTHE, MO 64601
GALVEZ, SISENANOO P IM
105 S KANSAS
MARCELINE, MO 64658
GARY, GEO GP
121 N KANSAS
MARCELINE, MO 64658
GEARHART, MERRIAM GS
P.O. BOX 449
BETHANY, MO 64424
816-425-3152
HOWELL, BILLY O GP
125 E. LOCKLING
BROOKFIELD, MO 64628
LEVENE, ROBERT B IM
1000 FRANCES
LEXINGTON, MO 64067
MANOLER, GEO OTO
C/O HEDRICK OFFICE BLOG. #9
103 ELEVENTH ST.
CHILLICOTHE, MO 64601
646-2847
MOU, BIN P
NAVAOA STATE SCHOOL & HOSP.
NEVAOA, MO 64772
417-667-7833
NIXON, EDWARD E GP
GALLATIN, MO 64640
PARK, YOUNG E PTH
2534 W. 29TH ST.
JOPLIN, MO 64801
PLATZ, JOHN H GP
16 N MONROE ST
CARROLLTON, MO 64633
RIVERA, MINERVA M IM
308 N. MAIN ST.
BROOKFIELO, MO 64628
258-3324
RIVERA, PEPITO C GS
308 NO. MAIN
BROOKFIELD, MO 64628
ROSE, JOHN F R
2105 MEADOW LANE CIRCLE
CHILLICOTHE, MO 64601
RYAN, DAVID FP
618 E. FIRST ST.
TRENTON, MO 64683
SMITH, ROBT W GP
BROOKFIELO PLAZA
BROOKFIELO, MO 64628
STATON, R H GP
215 S MAIN ST
CARROLLTON, MO 64633
SZYMANSKI, STANLEY R R
329 N ROLLINS ST
MACON, MO 63552
TRINIOAD, HERMANITO R GS
103 - 11TH ST., SUITE 8
CHILLICOTHE, MO 64601

WILSON, FREO K GP
WINSTON, MO 64689
WONG, DAVID T U
124 W. WOOO
P.O. BOX 96
BROOKFIELO, MO 64628
WRIGHT, OIANA L IM
448 WASHINGTON
CHILLICOTHE, MO 64601
816-646-5551
YOON, JIN S OBG
103 11TH ST
CHILLICOTHE, MO 64601
YOUSSEF, REDWAN OPH
103 ELEVENTH ST. SUITE 11
HEORICK OFFICE BUILDING
CHILLICOTHE, MO 64601

082—GREENE

ALCANCIA, ELPIOIO Y TR
3046 S. MARLAN
SPRINGFIELD, MO 65804
417-887-1737
ALLEN, JERRY H GS
1211 S GLENSTONE ST
SPRINGFIELO, MO 65804
417-831-1511
ALLISON, JAMES B P
2200 E SUNSHINE STE 301
SPRINGFIELD, MO 65804
417-883-2525
AMPIL, FEDERICO L TR
1423 N JEFFERSON
SPRINGFIELO, MO 65802
417-836-3436
ANCHETA, APOLINARIO A GS
306 PROFESSIONAL BLOG.
SPRINGFIELO, MO 65806
417-869-4145
ANOERSON, DOUGLAS A PTH
1235 EAST CHEROKEE
SPRINGFIELO, MO 65802
417-885-2961
ANTHONY, OALLAS O R
609 CHERRY
SUITE 403
SPRINGFIELO, MO 65806
417-869-6332
ARMSTRONG, STEPHEN O RHU
FERRELL-OUNCAN CLINIC
1550 E. SUNSHINE
SPRINGFIELO, MO 65804
417-881-1100
ASH, CHARLES J ORS
1443 N ROBBERSON ST
SUITE 308
SPRINGFIELD, MO 65802
417-866-2781
ASHLEY, THOS E GS
1211 S GLENSTONE ST
SPRINGFIELO, MO 65804
417-831-1511
ATKINSON, LANCE O FP
RT. 1, BOX 445B
SPRINGFIELO, MO 65803
417-881-2180
ATKINSON, THOS E OPH
ANCHOR HILL RANCH #1
ROGERSVILLE, MO 65742
417-753-2930
AUNER, CECIL R IM
708 MEOICAL TOWER
1443 NORTH ROBBERSON
SPRINGFIELO, MO 65802
417-831-0372
BACK, DONALO K IM
1211 S GLENSTONE
SPRINGFIELO, MO 65804
417-831-1511
BAILEY, ALAN H PUO
609 CHERRY ST
221 PROFESSIONAL BLO
SPRINGFIELO, MO 65806
417-831-3587
BALOWIN, RICHARO M OBG
MEOICAL TOWER, SUITE 905
1443 N. ROBBERSON
SPRINGFIELO, MO 65802
417-869-0739
BARNHILL, FLOYO R OTO
1900 SOUTH NATIONAL
SUITE 2300
SPRINGFIELO, MO 65804
417-887-5750
BARTLETT, JOHN E DR
208 MEOICAL TOWER
SPRINGFIELO, MO 65802
417-865-5521
BARTLEY, RICHARO L FP
SOUTHWEST MISSOURI ST
TAYLOR HEALTH CENTER
SPRINGFIELO, MO 65802
417-836-5540
BEISNER, DONALD H OPH
2900 S FREMONT
SPRINGFIELO, MO 65804
417-887-3900

---

* Doctor of Osteopathy.

BELL, LAIRO A DBG
NATIDNAL AVE. MEO. BLOG.
1900 S NATIONAL 2960 NW
SPRINGFIELD, MD 65804
417-887-5500
BENNETT, RDBERT U DRS
1900 S. NATIONAL
SUITE 1950
SPRINGFIELD, MD 65804
417-882-1900
BENNDCH, SHANE L EM
CDX MED CTR
1423 N JEFFERSON
SPRINGFIELD, MD 65802
417-836-3193
BENSDN, RONALD G DBG
404 E BATTLEFIELD
SPRINGFIELD, MD 65807
417-887-0966
BENTLEY, JDHN D IM
1900 S NATIDNAL
SUITE 2200
SPRINGFIELD, MO 65804
417-887-4000
BERNER, CARDL T FP
1900 S. NATIDNAL SUITE 2800
SPRINGFIELO, MD 65804
417-881-8818
BERRY, PAUL T FP
1740 S GLENSTONE DFF D
SPRINGFIELD, MO 65804
417-883-3533
BLAOES, RDSS D U
1211 S GLENSTDNE AVE
SPRINGFIELD, MD 65804
417-831-1511
BDLES, R. OAVID GS
1211 SDUTH GLENSTDNE
SPRINGFIELD, MD 65804
417-831-1511
BONEBRAKE, ALBERT J DBG
1900 SOUTH NATIONAL
SUITE 2960
SPRINGFIELD, MD 65804
417-887-5500
BONEBRAKE, MAC D OBG
NATIONAL AVE. MED. BLDG.
1900 S NATIONAL - #2960
SPRINGFIELO, MO 65804
417-887-5500
BDNNER, JAMES S DS
440 S. MARKET
SPRINGFIELD, MD 65806
417-865-5581
BOONE, MARTIN H AN
RT 2 BDX 315
SPRINGFIELD, MO 65802
417-869-3997
BORJA, EGBERT R IM
2912 S. BRENTWODD
SPRINGFIELD, MD 65804
417-887-1576
BRENT, LANNY R OR
208 MEDICAL TDWER
1443 N. ROBBERSDN
SPRINGFIELO, MD 65802
417-865-5521
BRIAN, WM J AN
229 PROFESSIDNAL BLDG
SPRINGFIELD, MO 65806
417-869-4377
BRIGHT, JAMES E P
2003 E. SUNSHINE
SUITE J
SPRINGFIELD, MO 65804
417-882-3000
BROADDUS, LOREN E IM
1550 E SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100
BRDCKMAN, M. DOUGLAS IM
1675 E. SEMINOLE SUITE M
SPRINGFIELD, MD 65807
417-887-6060
BRODKS, JDHN E N
1443 N. RDBBERSON
#1007 MEDICAL TDWER
SPRINGFIELD, MD 65802
417-865-2882
BROWN, DAVID W ORS
1900 S. NATIDNAL
NDRTH WING - SUITE 1980
SPRINGFIELD, MD 65804
417-882-6040
BROWN, JAMES T CD
2222 E BERKELEY
SPRINGFIELD, MO 65804
417-881-9011
BURKEY, JDRDAN W DTO
410 PROFFESSIONAL BLOG.
SPRINGFIELO, MO 65806
417-862-6701
BURLINGAME, ROBERT K P
1900 S. NATIONAL SUITE 1800
SPRINGFIELO, MO 65804
417-881-3124
BUSIEK, URBAN J PD
1635 E. WALNUT
SPRINGFIELD, MO 65802
417-862-6561
BUSSMANN, DONALD W JR U
3741 E. SUGAR HILL
SPRINGFIELD, MD 65804
417-881-5355
BUSSMANN, YVDNNE L PD
1211 S. GLENSTONE
SPRINGFIELD, MD 65804
417-831-1511
CALLAWAY, GUY O JR IM
901 E PORTLAND
SPRINGFIELO, MD 65804
417-862-8612
CANLAS, MARID P NS
205 MEDICAL TOWERS
SPRINGFIELD, MD 65802
417-862-0504
CARLTDN, LYNN N DR
403 PROFESSIONAL BLDG
SPRINGFIELD, MO 65806
417-869-6332
CARDLLA, RDBERT L DNC
1900 SDUTH NATIDNAL
SUITE 3600 NW
SPRINGFIELD, MD 65804
417-882-4880
CARR, PHILLIP W CD
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
CEASER, JAMES H CD
1550 E. SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100
CEASER, NANCY H PD
CDX MED CTR.
1423 JEFFERSDN
SPRINGFIELD, MD 65802
417-836-3000
CHRISTENSEN, HARDLD L IM
1550 SUNSHINE
SPRINGFIELD, MD 65804
417-881-1100
CHRISTIANSEN, STEPHEN O GS
NAT. AVE. MED. BLDG. #2800
1900 S. NATIDNAL
SPRINGFIELD, MO 65804
417-881-8819
CHRISTY, RAYMOND A PD
1211 S GLENSTONE ST
SPRINGFIELD, MD 65804
417-831-1511
CLARKE, MICHAEL J GS
3530 E. CATALPA
SPRINGFIELD, MD 65804
417-883-3363
CLARKE, MICHAEL S ORS
1900 S. NATIONAL
SUITE 1950
SPRINGFIELD, MD 65804
417-882-1900
CLARY, WM F P
1900 S NATIDNAL
SUITE 1800
SPRINGFIELD, MD 65804
417-881-3124
CLAYTON, EDGAR L PDA
609 CHERRY ST
103 PRDFESSIONAL BLD
SPRINGFIELO, MD 65806
417-862-4491
CDCHRAN, THOS E IM
1211 S GLENSTDNE ST
SPRINGFIELD, MO 65804
417-831-1511
COLLER, FREOERICK C NM
1721 E CAMIND ALTO
SPRINGFIELD, MO 65804
417-881-7354
COLLINS, DOUGLASS D PO
1900 S NATIDNAL
SUITE 2900
SPRINGFIELO, MO 65804
417-882-1600
CDNRAO, RAYMONO C OBG
1338 S. DELAWARE
SPRINGFIELD, MD 65804
417-881-6156
COOK, JAMES R AN
2333 E GLENWOOD
SPRINGFIELD, MO 65804
417-883-3963
COOPER, C. WESLEY CD
1211 S GLENSTDNE
SPRINGFIELD, MD 65804
417-831-1511
CORDONNIER, JAMES K GS
1550 E SUNSHINE
SPRINGFIELD, MD 65804
417-881-1100
CORRY, FRANCIS M GS
1211 S GLENSTONE
SPRINGFIELO, MO 65804
417-831-1511
CDSCIA, ROBERT L GS
1443 N. ROBBERSDN
SUITE 1001
SPRINGFIELD, MO 65802
417-865-2879
COULTER, JAMES W PUD
BDX 192C RT 3
ROGERSVILLE, MD 65742
417-887-2997
CRAWFDRD, ORAL B AN
609 CHERRY
229 PRDF BLDG
SPRINGFIELO, MD 65806
417-869-4337
CRIGHTDN, JDHN C GS
1443 N. ROBBERSON
SUITE 1001
SPRINGFIELD, MD 65802
417-865-2879
CRDSTHWAIT, EDWARD L GP
1305 BATTLEFIELD
SPRINGFIELO, MD 65804
417-883-9100
CUNNINGHAM, D. DEAN GP
1715 BDDNVILLE AVE
SPRINGFIELD, MD 65803
417-869-5517
CUNNINGHAM, RICHARD D IM
609 CHERRY ST.
309 PRDFESSIDNAL BLDG.
SPRINGFIELD, MO 65806
417-862-4429
OANIELSSON, ERNST P PS
3324 E REDBUD LANE
SPRINGFIELD, MO 65804
417-881-5095
DAVIS, THDMAS P III IM
708 MEDICAL TDWERS
1443 N. ROBBERSON
SPRINGFIELD, MD 65802
417-831-0372
DECKARD, SHELBY W IM
2256 E MEADDW
SPRINGFIELD, MO 65804
417-887-5171
OEXTER, J. KENT IM
609 CHERRY
419 PRDFESSIDNAL BLDG.
SPRINGFIELD, MD 65806
417-869-0747
DILLARD, ERIN M ORS
1900 S. NATIONAL
NORTH WING SUITE 1980
SPRINGFIELD, MO 65804
417-882-6040
OILLS, JOS N GS
BOX 82
CEOAR KEYS, FL 32625
DIMALANTA, ANTONIO S CHP
430 SDUTH AVE.
SPRINGFIELO, MD 65806
417-866-1969
DOMANN, DARREL D PS
901 MEDICAL TOWER
1443 N. ROBBERSON
SPRINGFIELO, MO 65802
417-862-9556
DOMINGUEZ, EMILIO J P
P. D. BDX 5239
MC ALLEN, TX 78501
DOWELL, J. LARRY FP
BOX 39
STRAFFORD, MD 65757
417-736-2998
DUENSING, GEDRGE F PTH
1964 E. VINCENT
SPRINGFIELD, MO 65804
417-887-5593
DUNCAN, DOUGLAS M ORS
1550 E SUNSHINE
SPRINGFIELO, MO 65804
417-881-1100
DUNCAN, RDBT D GS
1234 E. LOREN
SPRINGFIELD, MO 65804
417-869-1665
EARLS, JIM H P
407 PROFESSIDNAL BLDG.
609 CHERRY ST.
SPRINGFIELD, MO 65806
417-866-6503
ELKINS, RDNALD F CRS
2830 E. GLENWDOO ST.
SPRINGFIELO, MD 65804
417-881-6712
ELLIS, FRANCIS J OBG
NATIONAL AVE. MED BLDG
1900 S NATIDNAL - #2960
SPRINGFIELO, MO 65804
417-887-5500
ELLIS, HARRY L U
609 CHERRY ST. STE. 211
SPRINGFIELD, MO 65806
417-869-6353
ENKVETCHAKUL, BOONMEE AN
3573 E WHITEHALL
SPRINGFIELD, MO 65804
417-887-3568
EVANS, EZRA L PD
2457 E BARATARIA ST
SPRINGFIELD, MO 65804
417-883-7495
FARBER, BARRY S U
1900 S. NATIDNAL #2700
SPRINGFIELD, MO 65804
417-887-2090

FARTHING, GENE W GS
2030 S NATIONAL
SPRINGFIELD, MD 65804
417-881-5555

FERGUSDN, JDHN F NS
1900 S. NATIONAL SUITE 2980
SPRINGFIELD, MO 65804
417-887-6880

FERGUSON, JOHN L IM
1550 E SUNSHINE
SPRINGFIELD, MD 65804
417-881-1100

FERGUSDN, JDHN P OBG
NATIONAL AVE MED BLDG
1900 S NATIONAL 2960
SPRINGFIELD, MD 65804
417-887-5500

FERRELL, THDS E GS
1524 MEADOWMERE
SPRINGFIELD, MD 65804
417-862-3027

FINK, ROGER L PTH
204 MEDICAL TDWER
SPRINGFIELD, MO 65802
417-836-3917

FITE, JAMES E EM
LESTER COX EMERGENCY RO
1423 JEFFERSON
SPRINGFIELD, MD 65802
417-836-3000

FOGERSON, VIRGINIA L GP
227 E CHESTNUT EXPRESSWAY
SPRINGFIELD, MD 65802
417-864-1674

FOGLE, PHILIP R OBG
1900 S NATIONAL
SUITE 1500
SPRINGFIELD, MO 65804

FOOTE, DANIEL D AN
229 PRDFESSIDNAL BLD
609 CHERRY
SPRINGFIELO, MO 65806
417-869-4377

FROEHLICH, THDMAS W IM
1900 SOUTH NATIDNAL
SUITE #2800
SPRINGFIELD, MO 65804
417-882-4880

GASKA, WALTER J PS
1211 S GLENSTONE
SPRINGFIELO, MO 65804
417-831-1511

GENTRY, MERRITT L GP
1012 EAST CAMBRIOGE
SPRINGFIELO, MO 65807
417-887-3946

GENTRY, MICHAEL A O
1722 "K" S. GLENSTONE
SPRINGFIELD, MD 65804
417-883-8162

GEROES, JDHN A PTH
1235 E. CHERDKEE
SPRINGFIELD, MO 65802
417-885-2879

GERDES, KARL E R
403 PRDFESSIDNAL BLDG.
609 CHERRY
SPRINGFIELD, MO 65806
417-869-6332

GERMAN, WALTER A OBG
1211 S GLENSTDNE
SPRINGFIELO, MD 65804
417-831-1511

GIBSON, JAMES O GS
1550 E. SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100

GIDDINGS, FRANK C OR
208 MEDICAL TOWER
SPRINGFIELD, MO 65802
417-865-5521

GILL, PAUL J IM
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511

GLOVER, JACK F IM
1550 E SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100

GOODWIN, J. WENDALL IM
1211 S. GLENSTONE
SPRINGFIELO, MO 65804
417-831-1511

GOSE, DON F GS
1550 E SUNSHINE ST
SPRINGFIELD, MD 65804
417-881-1100

GOTTI, EDWARO W NM
DEPT DF NUCLEAR MED.
1235 CHEROKEE
SPRINGFIELD, MO 65802
417-885-3021

GRACE, STEVE OBG
NATIONAL AVE. MED. BLDG.
1900 S NATIONAL - #2960
SPRINGFIELD, MO 65804
417-887-5500

GRANT, RUTH HEM
1900 SO NATIONAL
SUITE 2800
SPRINGFIELD, MD 65804
417-882-4880

GRIESEMER, BERNARD A PD
3014 "J" E. SUNSHINE
SPRINGFIELD, MD 65804
417-887-0727

GURIAN, LAWRENCE E GE
1550 E. SUNSHINE
SPRINGFIELD, MD 65804
417-881-1100

GUTZMER, ERNEST W FP
2714 E GLENWOOO
SPRINGFIELD, MO 65804
417-887-4469

GWIN, EDWARD IM
1550 E SUNSHINE
SPRINGFIELD, MD 65804
417-881-1100

H'DOUBLER, CHAS GS
406 MEDICAL TDWER
SPRINGFIELD, MO 65802
417-831-4833

H'DOUBLER, FRANCIS T GP
1900 S. NATIDNAL
SUITE 2950
SPRINGFIELD, MO 65804
417-882-3066

H'DDUBLER, PETER B GS
302 PRDFESSIONAL BLOG.
SPRINGFIELD, MO 65806
417-866-7249

HACKER, DOUGLAS A N
403 PRDFESSIONAL BLOG.
SPRINGFIELO, MD 65806
417-869-6332

HADDDW, ALASTAIR D ID
1900 S. NATIONAL SUITE 2200
SPRINGFIELO, MO 65804
417-887-4000

HAEN, CHAS J GP
1630 N JEFFERSON
SPRINGFIELD, MD 65803
417-869-7337

HALL, DAVIO W FP
RDUTE 2
ROGERSVILLE, MO 65742
417-883-3758

HALL, DURWARD G GS
2442 S FREMONT
SPRINGFIELD, MO 65804
417-881-2515

HAMBURG, FREDERIC L PD
1900 S. NATIONAL
SUITE 2900
SPRINGFIELO, MD 65804
417-882-1600

HANAN, ERNEST B PTH
724 EAST KINGSBURY
SPRINGFIELD, MO 65802
417-883-0922

HANSS, ARMAND W IM
642 S MISSIDN
SPRINGFIELD, MO 65804
417-869-3774

HARGIS, JAMES L PUD
1211 S. GLENSTONE
SPRINGFIELD, MD 65804
417-831-9820

HARMDN, BEN C ORS
1211 S GLENSTONE ST
SPRINGFIELO, MO 65804
417-831-1511

HARRIS, HUGH G ORS
1900 S. NATIONAL SUITE 1950
SPRINGFIELD, MO 65804
417-882-1900

HARVEY, HAROLD O PS
2030 S NATIONAL
SPRINGFIELD, MD 65804
417-881-9214

HASLER, GALEN R DNC
1900 S. NATIONAL SUITE 2800
SPRINGFIELO, MO 65804
417-882-4880

HAWKINS, CALVIN D R
3523 S. CARA LANE
SPRINGFIELO, MO 65804
417-887-4658

HAYES, STANLEY P IM
1211 S. GLENSTONE
SPRINGFIELO, MO 65804
417-831-9820

HEINZ, GEORGE PUO
1900 S NATIDNAL
SPRINGFIELD, MO 65804
417-887-4000

HELLAM, OUANE C IM
419 PROFESSIONAL BLOG.
SPRINGFIELD, MO 65806
417-869-0747

HERFKENS, KENNETH O IM
1900 S NATIONAL
SPRINGFIELO, MO 65804
417-887-4000

HILLS, JOE E CO
1550 E SUNSHINE ST
SPRINGFIELD, MO 65804
417-881-1100

HINDS, PAUL A OBG
TAYLOR HEALTH CLINIC
SPRINGFIELD, MO 65802
417-836-5540

HOLAND, RDY W DRS
1550 E. SUNSHINE
SPRINGFIELO, MO 65804
314-881-1100

HDLLAND, ROBT O PO
1211 S GLENSTONE
SPRINGFIELD, MD 65804
417-831-1511

HOLLIS, RICHARD W AN
609 CHERRY
229 PRDFESSIONAL BLD
SPRINGFIELD, MD 65806
417-869-4377

HOLMES, OANL E IM
MEDICAL TOWER, SUITE 805
1443 N. ROBBERSON
SPRINGFIELO, MD 65802
417-866-7233

HOLMES, DAVID R DBG
P. D. BDX 3755 GS
SPRINGFIELD, MO 65804
417-881-1337

HDRTDN, BILL G OPH
1900 S. NATIDNAL
SPRINGFIELD, MO 65804
417-887-5400

HORTON, JAMES D ORS
1235 E DELMAR
SPRINGFIELO, MO 65804
417-869-3041

HUBBARO, SALLY L FP
901 NATIDNAL
SMSU STUDENT CLINIC
SPRINGFIELO, MD 65802
417-836-5540

HUEWE, DOUGLAS A O
1900 S. NATIONAL SUITE 3800
NORTH WING
SPRINGFIELO, MO 65804
417-862-2277

HUFFT, ROBERT E JR ORS
1900 S. NATIDNAL
#1950
SPRINGFIELO, MO 65804
417-882-1900

HULSTRA, JOHANNES F P
1211 S GLENSTONE
SPRINGFIELD, MO 65802
417-831-1511

HUSTED, FREDERICK C IM
1550 E SUNSHINE
SPRINGFIELO, MO 65804
417-881-1100

IPPENSEN, JDHN H OTO
1900 SOUTH NATIDNAL
STE 2300
SPRINGFIELD, MO 65804
417-887-5750

IVY, BERRY OPH
5000 SHAOY DAKS PLACE
SPRINGFIELD, MD 65804
417-862-1246

JAHANIAN, IRAJ GP
404 PROFESSIONAL BLDG
SPRINGFIELD, MO 65806

JAMESDN, JAMES E ORS
1900 S. NATIONAL
NORTH WING - SUITE 1980
SPRINGFIELD, MO 65804
417-869-6421

JANECZKO, GREGORY F AN
229 PROFESSIONAL BLOG.
609 CHERRY
SPRINGFIELD, MO 65806
417-869-4377

JOBE, CHAS L IM
1211 S GLENSTONE-S G C
SPRINGFIELD, MO 65804
417-831-9820

JOHNSON, FRITZ M TS
1900 S NATIONAL
STE. 2600
SPRINGFIELD, MO 65804
417-887-5220

JOHNSON, GEO L CRS
609 CHERRY
#307
SPRINGFIELO, MO 65806
417-869-4401

JOHNSON, JEFFREY R U
211 PROFESSIONAL BLDG.
SPRINGFIELO, MD 65806

JOHNSON, JOS C JR OBG
1211 S GLENSTONE
SPRINGFIELO, MO 65804
417-831-1511

JOHNSON, WARFORO B II IM
1443 N ROBBERSON
STE 708
SPRINGFIELO, MO 65802
417-831-0372

JOHNSON, WARFORO B SR. IM
220 PROFESSIONAL BLDG
SPRINGFIELD, MO 65804
417-866-0636

JOHNSON, WM F U
211 PROF BLDG
609 CHERRY
SPRINGFIELD, MO 65806
417-862-4465

JOHNSTON, JOS L OBG
2855 SOUTHERN HILLS BLV
SPRINGFIELD, MO 65806
417-881-2323

JONES, HAROLD L IM
1550 SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100

KELL, GARY A IM
1550 E SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100

KELLY, JAMES C PO
1900 S NATIONAL
SUITE 3200
SPRINGFIELD, MO 65804
417-887-0413

KEY, JAMES S D
NORTH WING SUITE 3900
1900 S NATIONAL
SPRINGFIELD, MO 65804
417-882-2194

KHALIL, TAMER G IM
3559 C EAST SUNSHINE
SPRINGFIELD, MO 65804
417-883-6651

KINDER, DOYLE O FP
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511

KIPFER, ROBT E GE
1550 E SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100

KISSELL, RICHARD W IM
1443 N. ROBBERSON
SUITE 805
SPRINGFIELD, MO 65802
417-866-7233

KLINGNER, GEO M IM
1630 N JEFFERSON ST
SPRINGFIELD, MO 65803
417-869-7337

KLINGNER, GEO M JR FP
1630 N JEFFERSON ST
SPRINGFIELD, MO 65803
417-869-7337

KLINKERFUSS, GEO H N
1443 N. ROBBERSON
#1007 MED TOWER
SPRINGFIELD, MO 65802
417-865-2882

KNABB, HENRY F JR GP
1630 NORTH JEFFERSON
SPRINGFIELD, MO 65803
417-869-4404

KNABB, KENNETH E FP
1630 N JEFFERSON ST
SPRINGFIELD, MO 65803
417-869-6311

KNOWLTON, NORMAN P III IM
419 PROFESSIONAL BLDG
609 CHERRY
SPRINGFIELD, MO 65806
417-869-0747

KOBBERMANN, KOBBY J OBG
1900 S NATIONAL
SPRINGFIELD, MO 65804
417-882-2919

KOLZE, VERNON W GS
803 MEDICAL TOWER
1443 N. ROBERSON AVE.
SPRINGFIELD, MO 65802
417-865-1651

KRAHN, HENRY C R
208 MEDICAL TOWER
1443 N. ROBBERSON
SPRINGFIELD, MO 65802
417-836-3431

KRAUSE, MAURICE D R
1423 N JEFFERSON
SPRINGFIELD, MO 65802
417-836-3436

LA FERRIERE, KEITH A OTO
1900 S. NATIONAL
SPRINGFIELD, MO 65804
417-887-5750

LANGGUTH, STEVEN O FP
2956 S. BARNES
SPRINGFIELD, MO 65804
417-882-1957

LE FEVRE, PHILIP J P
2030 S NATIONAL
SPRINGFIELD, MO 65804
417-883-5141

LEIOINGER, KARL J GP
P O DRAWER Y
REPUBLIC, MO 65738
417-732-2550

LIN, CHI-HSI N
3259 K EAST SUNSHINE
SPRINGFIELD, MO 65804
417-883-8796

LITTON, LYLE O OR
208 MEDICAL TOWER
1443 N ROBBERSON
SPRINGFIELD, MO 65802
417-865-5521

LOCKHART, CHAS E GS
609 CHERRY ST
105 PROFESSIONAL BLD
SPRINGFIELD, MO 65806
417-869-9139

LOEB, RICHARD H IM
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511

LORENC, ERNEST D
1900 S. NATIONAL SUITE 3800
NORTH WING
SPRINGFIELD, MO 65804
417-882-7777

LOWE, H. ARCH JR GS
302 PROFESSIONAL BLDG
SPRINGFIELD, MO 65806
417-866-7249

LUNDMAN, HUGH GS
609 CHERRY
116 PROFESSIONAL BLD
SPRINGFIELD, MO 65806
417-866-2702

LURIE, HAROLD H IM
MEDICAL TOWER SUITE 805
1443 N. ROBBERSON
SPRINGFIELD, MO 65802
417-866-7233

LUZECKY, MICHAEL H N
1443 N. ROBBERSON
#1007 MED TOWER
SPRINGFIELD, MO 65802
417-865-2882

LYNCH, THOS W O
1900 S. NATIONAL #3100
SPRINGFIELD, MO 65804
417-883-0500

MAHER, ROBT W GS
609 CHERRY
307 PROFESSIONAL BLD
SPRINGFIELD, MO 65806
417-866-5094

*MAHONEY, MICHAEL C GP
626 E. BATTLEFIELD
SPRINGFIELD, MO 65807
417-881-2180

MAJOR, TROY E O
1630 N JEFFERSON
SPRINGFIELD, MO 65803
417-862-0383

MANTELL, JACK M IM
1550 E SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100

MAPLE, FRANCIS M GE
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511

MC AFEE, GORDON P
307 MEDICAL TOWER
1443 N. ROBBERSON
SPRINGFIELD, MO 65802
417-865-0611

MC ALHANY, HOWARO J NS
1643 EAST CATALPA
SPRINGFIELD, MO 65804
417-865-4578

MC CORCLE, MARCUS O OBG
117 PROFESSIONAL
SPRINGFIELD, MO 65806
417-869-1337

MC CREA, WM A GP
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511

MC KINNEY, DANIEL C PO
1900 S. NATIONAL SUITE 3200
SPRINGFIELD, MO 65804
417-887-0413

MC LAUGHLIN, RICHARO O OBG
117 PROFESSIONAL BLDG
SPRINGFIELD, MO 65806
417-869-1337

MC NEAL, DOUGLAS M PD
3014 J.E. SUNSHINE
SPRINGFIELD, MO 65804
417-887-0727

MEHLHORN, GARY L OPH
410 PROFESSIONAL BLDG.
SPRINGFIELD, MO 65806
417-862-6701

MELOI, DOMINIC M IM
1211 S. GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511

MENCHETTI, DONALO E FP
1630 N JEFFERSON
SPRINGFIELD, MO 65803
417-881-4773

MENOEZ, MARIA A P
2003 E SUNSHINE #H
SPRINGFIELD, MO 65804
417-881-8375

MENTGEN, CARL N GE
1550 E SUNSHINE ST
SPRINGFIELD, MO 65804
417-881-1100

MEYER, JOHN W PO
3014-G EAST SUNSHINE
SPRINGFIELD, MO 65804
417-887-1504

MICHAEL, HARVEY R ORS
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511

MICHAELS, ROBERT H OPH
1900 S NATIONAL AVE
SUITE 1400
SPRINGFIELD, MO 65804
417-887-5400

MIHALEVICH, JOHN A JR IM
1900 S. NATIONAL #3400
SPRINGFIELD, MO 65804
417-887-7002

MILLER, OAVIO O GS
1443 N ROBBERSON
SUITE 1001
SPRINGFIELD, MO 65802
417-865-2879

MILNE, JAY L U
SUITE 2700
1900 S. NATIONAL
SPRINGFIELD, MO 65804
417-887-2090

MIZELL, MYRON W CO
1900 S. NATIONAL
SUITE 3400
SPRINGFIELD, MO 65804
417-887-7002

MOORE, DEARMONO OM
418 PROFESSIONAL BLDG
SPRINGFIELD, MO 65806
417-831-5240

MORROW, N. EUGENE O
1900 S. NATIONAL AVE.
SUITE 3800
SPRINGFIELD, MO 65804
417-882-2277

MORTON, PAUL C IM
1508 E STANFORD
SPRINGFIELD, MO 65804
417-881-7011

MOSELEY, F. THOMAS GS
609 CHERRY
SUITE 116
SPRINGFIELD, MO 65806
417-866-2702

MUEGGE, F. OAVIO IM
1443 N. ROBERSON
805 MEDICAL TOWER
SPRINGFIELD, MO 65802
417-866-7233

NEBLETT, LEWIS M ENT
RT 2, BOX 213B
ROGERSVILLE, MO 65742
417-883-0779

NELSON, OAVIO E DR
SUITE 208
MEDICAL TOWER
SPRINGFIELD, MO 65802
417-865-5521

NELSON, DONALO C IM
1900 S. NATIONAL SUITE 2200
SPRINGFIELD, MO 65804
417-887-4000

NEU, LEO T JR HEM
3008 CARLISLE CT
SPRINGFIELD, MO 65804
417-881-6037

OLSON, E. RULE R OPH
1900 S NATIONAL STE 1400
SPRINGFIELD, MO 65804
417-887-5400

OVERENO, DON S PD
1211 S GLENSTONE ST
SPRINGFIELD, MO 65804
417-831-1511

PACHECO, JOSE M R
1432 N. JEFFERSON
SPRINGFIELD, MO 65802
417-836-3436

PADOOCK, GEORGE O OPH
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511

PALCHEFF, CHRIS L PO
1722 "SS" S. GLENSTONE
SPRINGFIELD, MO 65804
417-881-6300

PARK, WM I JR IM
609 CHERRY
309 PROFESSIONAL BLDG.
SPRINGFIELD, MO 65806
417-862-4429

PARSONS, CLYOE W III ORS
1900 S. NATIONAL
NORTH WING - SUITE 1980
SPRINGFIELD, MO 65804
417-869-6421

---

* Doctor of Osteopathy

PENNINGER, WILLIAM H ORS
1006 MEDICAL TOWERS
1443 N. ROBBERSON
SPRINGFIELD, MO 65802
417-866-2714

PERRY, GUY F OM
1211 S. GLENSTONE
SPRINGFIELD, MO 65804
417-831-9836

PETERSON, STANLEY S IM
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-9820

PIKER, K. DEWAYNE FP
1525 N CAMPBELL AVE
SPRINGFIELD, MO 65803
417-831-4808

PINCKLEY, JAMES N CD
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511

PODRECCA, GUIDO I PTH
207 PROFESSIONAL BLDG
SPRINGFIELD, MO 65806
417-865-6656

POWELL, EDWIN M U
609 CHERRY STE 211
SPRINGFIELD, MO 65806
417-869-6353

PRATER, BILL G OPH
410 PROFESSIONAL BLDG
SPRINGFIELD, MO 65806
417-862-6701

PREVITI, VINCENT GS
2030 S. NATIONAL
SPRINGFIELD, MO 65804
417-881-3428

PRUETT, PAUL L OBG
NATIONAL AVE. MED. BLDG.
1900 S NATIONAL - #2960
SPRINGFIELD, MO 65804
417-887-5500

QUINN, PAUL S PTH
1423 N JEFFERSON AVE
SPRINGFIELD, MD 65802
417-836-3221

RABORAR, ARTESO C CLP
207 PROFESSIONAL BLDG
SPRINGFIELD, MO 65806

RAINWATER, ELMER H OPH
416 PROFESSIONAL BLDG
SPRINGFIELD, MO 65806
417-862-6701

REYES, EFRAIM FP
1331 OAK RUN
SPRINGFIELD, MO 65804
417-887-7085

REYES, LIRIO M PD
21 WASHINGTON
MARIONVILLE, MO 65705
417-463-2517

RICE, KATHLEEN G PD
2409 CATALINA
SPRINGFIELD, MO 65804
417-882-1600

RIESENBERG, DONALD E IM
1900 S NATIONAL
STE. 2200
SPRINGFIELD, MO 65804
417-887-4000

RISING, DEAN R PD
1211 S GLENSTONE
SPRINGFIELD, MD 65804
417-831-9810

RDBINSON, GARY L OBG
404 E BATTLEFIELD RD
SPRINGFIELD, MO 65807
417-887-0966

ROSEN, WILLIAM K FP
1675 E. SEMINOLE SUITE I-2
SPRINGFIELD, MD 65804
417-831-4808

RUFF, PAUL G CD
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511

RUSSELL, EARL D GP
1503 S GLENSTONE
SPRINGFIELD, MO 65804
417-881-8593

RYAN, ROBERT A GP
2523 EAST BROADMOOR
SPRINGFIELD, MO 65804
417-887-3889

SAMMON, T. JAMES PD
3014 "J" E. SUNSHINE
SPRINGFIELD, MO 65804
417-887-0727

SAUER, PAUL E CD
1443 N. ROBBERSON
STE 504
SPRINGFIELD, MO 65802
417-869-6313

SCANLON, ROBT C FP
2145 E EDGEWOOD
SPRINGFIELD, MO 65804
417-881-3815

SCHAEFFER, EDWARD M OPH
2900 S FREMONT
SPRINGFIELD, MO 65804
417-887-3900

SCHOENFELDER, PATRICK G DR
1443 N ROBBERSON SUITE 208
SPRINGFIELD, MO 65802
417-865-5521

SCHREIBER, NORMAN J GP
504 LONGMEADOW CR.
ST. CHARLES, IL 60174

SCHROFF, CARLE E FP
1630 N JEFFERSON ST
SPRINGFIELD, MO 65803
417-866-6619

SCHWARTZ, EUGENE J PD
609 CHERRY ST
317 PROFESSIONAL BLD
SPRINGFIELD, MO 65806
417-869-1896

SCHWARTZ, HOWARD R RHU
1550 E. SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100

SCOTT, ROBERT W IM
609 CHERRY
419 PROFESSIONAL BLDG.
SPRINGFIELD, MO 65806
417-869-0747

SHACKTER, BRUCE I ORS
1550 E. SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100

SHAEFFER, JAMES T ORS
1900 S. NATIONAL
NORTH WING-SUITE 1980
SPRINGFIELD, MO 65804
417-869-6421

SHANE, RAMON A TS
1900 S NATIONAL
STE. 2600
SPRINGFIELD, MO 65804
417-887-5220

SHEALY, CLYDE N NS
1919 S. FREMONT
SPRINGFIELD, MO 65804
417-882-5850

SHELTON, R. WAYNE OPH
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511

SHIELDS, LAWRENCE S FP
SMSU TAYLOR HEALTH CTR
SPRINGFIELD, MO 65802
417-836-5540

SILSBY, DON J GS
401 PROFESSIONAL BLDG
SPRINGFIELD, MO 65806
417-862-1709

SILSBY, HARRY D IM
1369 SOUTH FAIRWAY AVE
SPRINGFIELD, MO 65804
417-881-4756

SIMPSON, ALBERT P FP
1636 S. GLENSTONE
SPRINGFIELD, MO 65804
417-881-6140

SNEAD, WILLIAM H ORS
1900 S. NATIONAL
NORTH WING - SUITE 1980
SPRINGFIELD, MO 65804
417-869-6421

SNOW, EMASUE P
2030 S. NATIONAL
SPRINGFIELD, MO 65804
417-887-1192

SNYDER, CHRISTOPHER H JR PD
1900 S. NATIONAL
SPRINGFIELD, MO 65804
417-882-1600

SPADE, DIANA J AN
609 CHERRY ST.
SPRINGFIELD, MO 65806
417-869-4377

SPALDING, DAVID L OPH
1900 S. NATIONAL
STE. 1400
SPRINGFIELD, MD 65804
417-887-5400

SPONENBERG, DON D PD
1211 S GLENSTONE ST
SPRINGFIELD, MO 65804
417-831-1511

STAMATIS, JOHN J TS
1900 S NATIONAL
SUITE 2600
SPRINGFIELD, MO 65804
417-887-5220

STEWART, ROBT B OPH
2360 EAST GRAND
SPRINGFIELD, MO 65804
417-881-5672

STEWART, WENDELL FP
609 E CHERRY ST
219 PROFESSIONAL BLD
SPRINGFIELD, MO 65806
417-866-0108

STINE, GORDON W FP
1525 NO. CAMPBELL
SPRINGFIELD, MO 65803
417-831-4808

STUFFLEBAM, RDBT E IM
1900 S NATIONAL
SUITE 3400
SPRINGFIELD, MO 65804
417-887-7002

STURTEVANT, HARWOOD N R
609 CHERRY
403 PROFESSIONAL BLD
SPRINGFIELD, MD 65806
417-869-6332

SULLIVAN, DAN T DR
406 PROFESSIONAL BLDG.
SPRINGFIELD, MO 65806
417-869-6332

SUNDSTROM, FRANK D ORS
RT. 1, BOX 127
NIXA, MD 65714
417-765-2222

SUVA, MORFEO M IM
2030 S. NATIONAL
SPRINGFIELD, MO 65804
417-887-5519

SWEENEY, THDS P DR
403 PROFESSIONAL BLDG
SPRINGFIELD, MO 65806
417-869-6332

SWEET, ROBERT A END
1909 S. FREMONT
SPRINGFIELD, MD 65804
417-887-2050

TARRASCH, ERNEST L OPH
1636 S GLENSTONE AVE
SPRINGFIELD, MO 65804
417-881-4966

TAYLOR, WM E GP
1701 RANCH DRIVE
SPRINGFIELD, MO 65804
417-881-2022

TENDAI, MARK M OBG
505 MEDICAL TOWER
SPRINGFIELD, MO 65802
417-866-1988

TERRY, JAMES F U
609 CHERRY SUITE 211
SPRINGFIELD, MO 65806
417-869-6353

THOMASSON, DAVID D PD
PEDIATRICS MED. TOWER #508
1443 NORTH ROBBERSON
SPRINGFIELD, MO 65802
417-862-6606

TILLMAN, WALTER W AN
229 PROF BLDG
SPRINGFIELD, MO 65806
417-869-4377

TOMBRIDGE, THOS L PTH
1235 E CHEROKEE
ST JOHN'S HOSPITAL
SPRINGFIELD, MO 65804
417-881-2755

TROTTER, W. YATES IM
1243 E CATALPA
SPRINGFIELD, MO 65804
417-862-7826

TROXIL, ELIZABETH B PM
P.O. BOX 4807
SPRINGFIELD, MO 65808
417-862-3339

TSANG, JOHN L NS
3259 "G" E. SUNSHINE
SPRINGFIELD, MO 65804
417-881-4311

TURNER, GLENN O IM
609 CHERRY
419 PROFESSIONAL BLDG.
SPRINGFIELD, MO 65806
417-869-0747

TURNER, WM F FP
S.M.S.U. TAYLOR HEALTH CTR.
SPRINGFIELD, MO 65802
417-836-5540

VIDOLOFF, JOHN C PM
LESTER COX MEDICAL CENTER
1423 N. JEFFERSON
SPRINGFIELD, MO 65802
417-836-3421

WACHTER, RONALD M PTH
DEPT PATHOLOGY
COX MEDICAL CENTER
SPRINGFIELD, MO 65802
417-836-3221

WADDELL, KENNETH E OBG
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-742-3271

WAKEMAN, J. NEWTON SR GS
1402 E. MEADOWMERE
SPRINGFIELD, MO 65804
417-866-2277

WAKEMAN, NEWT JR ORS
1900 S NATIONAL
STE. 1700
SPRINGFIELD, MO 65804
417-883-9300

WALKER, GARY K OBG
117 PROFESSIONAL BLDG
609 CHERRY
SPRINGFIELD, MO 65806
417-869-1337
WALKER, MELVIN O JR IM
NATIONAL AVE. MED. BLDG.
1900 S. NATIONAL AVE.
SPRINGFIELD, MO 65804
417-887-4000
WALKER, WM M OBG
609 CHERRY ST
117 PROFESSIONAL BLDG
SPRINGFIELD, MO 65806
417-869-1337
WALL, NORMAN R PS
1443 N. ROBBERSON
STE. 901
SPRINGFIELD, MO 65802
417-862-9556
WANTUCK, DONALD K IM
1900 S. NATIONAL
SUITE 3400
SPRINGFIELD, MO 65804
417-887-7002
WARRES, HERBERT L U
609 CHERRY ST
230 PROFESSIONAL BLD
SPRINGFIELD, MO 65806
417-869-5317
WASHBURN, KENNETH B PM
1235 E. CHEROKEE
SPRINGFIELD, MO 65804
471-885-2000
WATERFIELD, JIM R IM
1211 S GLENSTONE
SPRINGFIELD, MO 65801
417-831-9855
WHITE, R. NED DBG
301 MEDICAL TOWER
1443 N. ROBBERSON
SPRINGFIELD, MO 65802
417-831-1512
WHITLOCK, C. COURTNEY NS
405 MEDICAL TOWER
SPRINGFIELD, MO 65802
417-862-0747
WIESEMEYER, DAN L AN
229 PROFESSIONAL BLDG.
609 CHERRY
SPRINGFIELD, MO 65806
417-869-4377
WILLIAMS, JOHN W IV DBG
404 E. BATTLEFIELD
SPRINGFIELD, MO 65807
417-887-0566
WILSON, ROY E P
1900 S. NATIONAL
STE. 3300
SPRINGFIELD, MO 65804
417-887-6538
*WILSON, W. TIMOTHY FP
2530 "H" S. CAMPBELL
SPRINGFIELD, MO 65807
417-883-0023
WINSKY, ARLEN D PS
SUITE 2970 NORTH WING
1900 SOUTH NATIONAL
SPRINGFIELD, MO 65804
417-887-8870
WITTMER, MARC R GS
1455 S. OAKMONT
SPRINGFIELD, MO 65802
417-883-0419
WITTMER, SAML C GS
1443 N. ROBBERSON
705 MEDICAL TOWER
SPRINGFIELD, MO 65802
417-862-0533
WOLF, MARION L DRS
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
WOLFE, JAMES B OTO
SUITE 410
PROFESSIONAL BLDG
SPRINGFIELD, MO 65806
417-883-6926
WOLFE, JOHN E IM
1550 E. SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100
WONG, GEO N
2030 S NATIONAL
SPRINGFIELD, MO 65804
417-883-2514
WOOLDRIDGE, WILFRED E D
1900 S. NATIONAL
3800 NORTH WING
SPRINGFIELD, MO 65804
417-862-4359
WOOTEN, MICHAEL B GE
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
WORTH, EUGENE R AN
609 CHERRY SUITE 229
SPRINGFIELD, MO 65806
417-869-4377

WYRSCH, LEO M DBG
NATIONAL AVE. MED. BLDG.
1900 S NATIONAL - #2960
SPRINGFIELD, MO 65804
417-887-5500
YANCEY, DANIEL L DRS
1133 S. WELLER
SPRINGFIELD, MO 65804
417-869-1140
ZAHN, ROBT L PD
1900 S NATIONAL STE 1900
SPRINGFIELD, MO 65804
417-887-8844

086—HENRY

HUGHES, SHELBY B GP
210 E WILSON
CLINTON, MO 64735
816-885-4953
JONES, EDNA M TS
RT #2
DEEPWATER, MO 64740
816-885-5585
KENNEY, DOUGLAS R FP
MEDICAL BLDG.
HOSPITAL DR.
CLINTON, MO 64735
816-885-8141
KING, RICHARD H GS
HOSPITAL DR
C/O MEDICAL CLINIC
CLINTON, MO 64735
816-885-8141
SCOTT, KENNETH F FP
MED BLDG-HOSPITAL DR
CLINTON, MO 64735
816-885-8141
SMITH, JAMES D GP
MEDICAL BLDG HOSP DRIVE
CLINTON, MO 64735
816-885-3151
SMITH, WM J GP
103 W COLT ST
WINDSOR, MO 65360
816-647-3117
WELTSCHEFF, CHRISTO A GP
120 S MAIN
WINDSOR, MO 65360
816-647-5651
WETZEL, GUS S GS
ROUTE 4
CLINTON, MO 64735
816-885-8171

094—HOWARD

DEAN, FRANCIS D GP
300 N CHURCH ST
FAYETTE, MO 65248
816-248-2261
GENGELBACH, RICHARD W FP
FAYETTE MED. CLINIC
ELM & CHURCH STS.
FAYETTE, MO 65248
816-248-2217
HOERL, MARK S FP
FAYETTE MED. CLINIC
FAYETTE, MO 65248
816-248-2217
HOFMEISTER, ROGER W FP
ELM & CHURCH STS.
FAYETTE, MO 65248
816-248-2217
LEECH, MAURICE P GP
920 W. DAVIS
FAYETTE, MO 65248
816-248-2261
MARSHALL, WILLIAM G FP
GLASGOW MED CTR
GLASGOW, MO 65254
816-338-2233
SHAW, WM J GP
300 N CHURCH ST
FAYETTE, MO 65248
816-248-2282

098—JACKSON

AARON, GEO U
TRUMAN FOREST MED. BUILDING
1515 W. TRUMAN RD.
INDEPENDENCE, MO 64050
816-252-1900
ABAQUETA, GAMALIEL P AN
1220 W 64TH TERR
KANSAS CITY, MO 64113
816-333-9976
ABDOU, NANCY L IM
SUITE T101
6420 PROSPECT
KANSAS CITY, MO 64132
816-363-4100
ABELLA, BIENVENIDO Z GS
6400 PROSPECT
SUITE 200
KANSAS CITY, MO 64132
816-363-2202

ABEND, MELVIN N PS
6724 TROOST
KANSAS CITY, MO 64131
816-523-4010
ABERCROMBIE, KEITH J U
1010 CARONDELET DR
KANSAS CITY, MO 64114
816-942-4243
ABRAMS, BERNARD M N
STE 400 HIGHLANDS PROF TOWER
6724 TROOST
KANSAS CITY, MO 64131
816-444-4082
ADELMAN, ARTHUR GS
6724 TROOST SUITE 910
KANSAS CITY, MO 64131
816-333-2000
ADLER, FEDERICO ORS
6724 TROOST AVE
KANSAS CITY, MO 64131
816-363-6500
AGEE, LOREN G GP
10000 HEMLOCK
OVERLAND PARK, KS 66212
913-878-3482
AHMAD, ABU Q OTO
CHILDREN'S MERCY HOSPITAL
24TH AT GILLHAM RD.
KANSAS CITY, MO 64108
816-234-3322
AHMED, IFTEKHAR N
2900 BALTIMORE SUITE 600
KANSAS CITY, MO 64108
816-756-2651
AHUJA, SURAJ P CD
428 ROCKHILL MED. BLDG.
6700 TROOST
KANSAS CITY, MO 64131
816-444-7444
AINSLIE, NINA K IM
PRIME HEALTH STADIUM CARE CT
9150 E 41ST TERR
KANSAS CITY, MO 64133
816-356-5000
AKIN, C D CD
1515 W. TRUMAN RD.
INDEPENDENCE, MO 64050
816-461-6837
AKS, DANL OBG
6724 TROOST
KANSAS CITY, MO 64131
816-444-2505
AKS, HOWARD A IM
5205 JUNIPER DR.
SHAWNEE MISSION, KS 66205
913-831-9251
ALBERG, MARVIN R DM
3525 N W 60TH TERRACE
KANSAS CITY, MO 64151
816-741-5239
ALDERMAN, DONALD P AN
3221 W 83RD ST
SHAWNEE MISSION, KS 66206
913-341-7869
ALDERMAN, THOS F GS
1010 CARONDELET SUITE 1
KANSAS CITY, MO 64114
816-941-0344
ALDRIDGE, JOHN OBG
SUITE 201(S3)
6025 PROSPECT
KANSAS CITY, MO 64130
816-444-2280
ALFIE, SALOMON CHP
4400 BROADWAY
SUITE 202
KANSAS CITY, MO 64111
816-561-2025
ALI, MOHAMMED E AN
17421 MEDICAL CENTER PARKWAY
INDEPENDENCE, MO 64057
816-373-9108
ALLEBACH, HOBART K PTH
6400 PROSPECT AVE
KANSAS CITY, MO 64132
816-361-2135
ALLEMAN, ROBERT E GS
BROADWAY MEDICAL BLDG.
SUITE 312 4400 BROADWAY
KANSAS CITY, MO 64111
314-756-2945
ALLEN, ARTHUR A II N
210 FOXHILL MED. BLDG.
4601 W. 109TH ST.
SHAWNEE MISSION, KS 66211
913-341-4030
ALLEN, ROBT E GS
4320 WORNALL RD
KANSAS CITY, MO 64111
816-931-2393
ALSOP, WEBB S AN
3604 W 53RD STREET
SHAWNEE MISSION, KS 66205
913-262-1540
ALTOMARE, EDWARD P AN
1030 W 65TH ST
KANSAS CITY, MO 64113
816-444-8667

---

* Doctor of Osteopathy.

AMES, MARY B   N
7261 EBY OR.
SHAWNEE MISSION, KS 66204
913-236-8674
AMINI, JAFAR   DR
TRUMAN MEDICAL CENTER
2301 HOLMES
KANSAS CITY, MO 64108
816-556-3272
AMMATELLI, FRANCIS J   IM
412 ST JDSEPH MED. BLDG.
1010 CARONOELET OR
KANSAS CITY, MO 64114
816-942-8558
AMOURY, RAYMDND A   PDS
CHILDRENS MERCY HOSPITA
24TH & GILLHAM RD
KANSAS CITY, MD 64108
816-234-3575
ANOERSDN, JDHN V   OS
CHILOREN'S MERCY HDSP.
24TH ANO GILLHAM RD
KANSAS CITY, MO 64108
816-234-3593
ANOERSDN, RAYMONO B   PD
CHILDREN'S MERCY HOSPITAL
24TH & GILLHAM RO.
KANSAS CITY, MO 64108
816-234-3666
ANDERSDN, SUE K   NEP
629 W. 70TH
KANSAS CITY, MO 64113
816-361-3888
ANDERSON, WILLIAM A   PD
CHILDRENS MERCY HOSP.
24TH AT GILLHAM
KANSAS CITY, MO 64108
816-234-3000
ANDES, ELIZABETH A   IM
3802 S. CRYSLER
INDEPENDENCE, MD 64055
816-836-8200
ANDRUS, BAILEY C   PD
4400 BROAOWAY
KANSAS CITY, MD 64111
816-561-8100
ANTHDNY, JAMES P   DR
3807 WEST 171ST ST
STILWELL, KS 66085
913-897-2149
ARBAB, ALI A   GS
208 ROCKHILL MED. BLDG.
6700 TROOST
KANSAS CITY, MD 64131
816-444-0905
ARMS, ARNOLO V   IM
115 W. 99TH TERR. #202
KANSAS CITY, MD 64114
816-941-2929
ARMS, RICHARO A   PUD
4240 BLUE RIDGE BLVO
KANSAS CITY, MO 64133
816-356-8877
ARNOLD, JOHN D   IM
5101 E 24TH ST
KANSAS CITY, MO 64127
816-483-7117
ARNOLO, LOWRY K   PTH
101 MEMORIAL ORIVE
ST. MARY'S HOSP.
KANSAS CITY, MD 64108
816-753-5700
ARRIBAS, AURDRA I   GP
1000 S 42ND
BLUE SPRINGS, MO 64015
816-229-1418
ARRIBAS, ROMED F   GS
1212 LUTTRELL
BLUE SPRINGS, MO 64015
816-229-9125
ASHBY, JENNIFER O   D
TRUMAN MED CTR WEST
2301 HDLMES
KANSAS CITY, MD 64108
816-756-1222
ASHCRAFT, KEITH W   POS
509 BROADWAY MED BLOG
4400 BROADWAY
KANSAS CITY, MD 64111
816-931-5538
ASHER, A G   CD
510 SHAMOCK APT. 113
JOHN KNOX
LEE'S SUMMIT, MD 64063
816-524-8109
ASHLEY, LILLARD G JR   CD
1010 CARONOELET DR.
SUITE #421
KANSAS CITY, MO 64114
816-941-0011
ATWELL, FLOYD C   OBG
4320 WORNALL RD
KANSAS CITY, MO 64111
816-561-8166
AUSTIN, GEORGE M   U
1515 W. TRUMAN RO.
SUITE 404
INDEPENDENCE, MO 64050
816-836-8831

AVERILL, KEITH H   CD
1010 CARDNDELET DRIVE
SUITE 110
KANSAS CITY, MO 64114
816-942-4880
BAER, ALVIN J   OPH
5800 HDWE DR.
SHAWNEE MISSION, KS 66205
913-362-3560
BAI, EUNG K   PTH
UPSHER LABORATORIES INC
200 E 14TH ST.
KANAS CITY, MD 64106
816-842-4850
BAKER, PHILIP J   GP
9306 E NEW 40TH HWY
INOEPENDENCE, MO 64050
816-737-1505
BALLARD, V. BRYCE   IM
4320 WORNALL RD
KANSAS CITY, MO 64111
816-753-4312
BANKUTI, FERENC   R
T209 RESEARCH MED DFF BLDG
6420 PROSPECT
KANSAS CITY, MO 64132
816-523-2400
BARE, CHESTER I   PD
9406 E 63RO
KANSAS CITY, MD 64133
816-356-1060
BARELLI, PAT A   DTO
2929 BALTIMORE STE 105
KANSAS CITY, MO 64108
816-561-4423
BARLOON, JAMES H   OBG
240 RDCKHILL MEO. BLDG.
6700 TRODST
KANSAS CITY, MD 64131
816-333-5000
BARNARO, JOHN L   ORS
4320 WDRNALL RO
KANSAS CITY, MO 64111
816-531-5757
BARNARD, WILLIAM R   IM
6836 CHERRY
KANSAS CITY, MD 64131
816-722-1022
BARNETT, DANIEL K   IM
1512 MAIN ST.
GRANOVIEW, MD 64030
816-765-8900
BARNETT, GORDON P   GP
6568 HIGH DR
SHAWNEE MISSIDN, KS 66208
913-362-8226
BARR, GLENN A   GS
520 E. 63RD ST.
KANSAS CITY, MD 64110
816-361-2800
BARRY, WM B   OTO
4320 WDRNALL RD
KANSAS CITY, MO 64111
816-931-3296
BARTER, BRUCE   PO
9150 EAST 41ST TERR.
KANSAS CITY, MO 64133
816-356-5000
BARTON, JEAN C   PD
3429 COLEMAN RD.
KANSAS CITY, MD 64111
816-561-2180
BASANTZ, FERNANOD V   GP
HICKMAN MILLS CLINIC, INC.
11201 CDLORADO
KANSAS CITY, MO 64137
816-763-5200
BASKA, RICHARD E   CHN
CHILDRENS MERCY HDSP
KANSAS CITY, MO 64108
816-234-3090
BASS, WALTER R   OPH
8800 E 63RD ST
RAYTOWN, MO 64133
816-353-7331
BATTS, BARBARA A   OBG
1010 CARDNDELET OR.
SUITE 328
KANSAS CITY, MO 64114
816-941-0700
BAUER, LAFE W   AN
4818 W 80TH
PRAIRIE VILLAGE, KS 66208
913-753-5700
BAUM, FRANK E   OBG
310 HIGHLAND PROFESSIONAL
6724 TROOST
KANSAS CITY, MO 64131
816-338-3305
BAVISHI, SAROJ A   OBG
9800 WILLOW AVE #3C
KANSAS CITY, MO 64134
816-761-0494
BAY, MERRILL R   OM
301 S. WOOOS CHAPEL RD
BLUE SPRINGS, MO 64015
816-228-5510

BAYER, WILLIAM L   IM
4040 MAIN
KANSAS CITY, MD 64111
816-753-4040
BEALL, MC PHERSDN S   DRS
1010 CARONDELET OR. #426
KANSAS CITY, MO 64114
816-941-0200
*BEAR, PHILIP A   IM
4415 JEFFERSDN #204
KANSAS CITY, MD 64111
816-531-4559
BEARO, WM J   IM
10604 E. 98TH TERR #3C
KANSAS CITY, MD 64134
816-888-5615
BEATTY, EUGENE C   PTH
24TH GILLHAM RO
KANSAS CITY, MO 64108
816-234-3234
BEATTY, NINA O   AN
TRUMAN MEDICAL CTR
2301 HOLMES
KANSAS CITY, MO 64108
816-556-3218
BEAUCHAMP, GARY D   IM
722 MEDICAL PLAZA
4320 WORNALL RD.
KANSAS CITY, MD 64111
816-531-5510
BECK, CALVIN E   U
4320 WORNALL RD
KANSAS CITY, MD 64111
816-561-7612
BECKER, PAUL A   IM
SUITE T509
6420 PROSPECT AVE.
KANSAS CITY, MO 64132
816-523-4525
BECKER, RICHARO R   GP
5622 HDLMES ST
KANSAS CITY, MO 64110
816-444-1134
BECKER, ROLFE A   OPH
6724 TROOST AVE SUITE 8
KANSAS CITY, MO 64131
816-363-3363
BEEKS, JOHN W   DM
1522 PROFFESSIONAL BLDG
1103 GRANO
KANSAS CITY, MO 64106
816-421-1611
BEHRENDS, STEVEN H   GS
1010 CARONDELET
SUITE 301
KANSAS CITY, MO 64114
816-942-8250
BELL, HUBERT H   CD
4320 WORNALL RO
KANSAS CITY, MO 64111
816-531-5510
BELL, WM F   GP
615 WEST 3RO STREET
LEE'S SUMMIT, MO 64063
816-524-3799
BELLER, THOMAS A   IM
6420 PROSPECT
SUITE T303
KANSAS CITY, MO 64132
816-333-1919
BENNETT, JAMES O   IM
4315 W. 111TH TERR
SHAWNEE MISSION, KS 66211
913-383-1495
BENOIT, HECTOR W   TS
4620 J C NICHOLS PKWY
KANSAS CITY, MO 64112
816-561-6510
BENSON, WILLIAM F   DRS
4320 WORNALL RO
KANSAS CITY, MO 64111
816-753-5102
BERENSON, SHELDON E   R
832 WEST 63RD STREET
KANSAS CITY, MO 64113
816-361-6365
BERRY, MAXWELL G   IM
4320 WORNALL RO
KANSAS CITY, MD 64111
816-753-3243
BERTUSO, JOHN R   IM
4116 NE DAVIOSON RD
APT 316
KANSAS CITY, MO 64116
816-531-4559
BETTINGER, IRENE E   N
4320 WORNALL RO.
SUITE 220
KANSAS CITY, MO 64111
816-531-4510
BIBER, ROBERT J   U
1515 W. TRUMAN RO. SUITE 404
INDEPENOENCE, MO 64050
816-836-8831
BICKLEY, JAMES E   OBG
328 ST JOSEPH MED BLDG
1010 CARONOELET OR
KANSAS CITY, MO 64114
816-941-0700

---

* Doctor of Osteopathy.

BIDNICK, TERRANCE A OM
WESTERN ELECT. MED. DEPT
777 N. BLUE PARKWAY
LEE'S SUMMIT, MO 64063
816-524-3442

BIDWELL, ROBT E P
4320 WORNALL RD STE 704
KANSAS CITY, MO 64111
816-561-2524

BIERY, RICHARD M PH
K C MO HEALTH DEPT
414 E 12TH ST
KANSAS CITY, MO 64106
816-274-1381

BIGGS, ALFRED D JR IM
SUITE T101
6420 PROSPECT
KANSAS CITY, MO 64132
816-362-6023

BIGGS, HARRY L GP
308 W. 3RD ST.
LEE'S SUMMIT, MO 64063
816-524-7008

BILLS, MARVIN L N
3309 W 68TH ST
SHAWNEE MISSION, KS 66208
913-362-8184

BINDA, ROBERT E AN
142 RESEARCH MEDICAL OF
6400 PROSPECT AVE
KANSAS CITY, MO 64132
816-444-1139

BLACK, DON A IM
SUITE T101
6420 PROSPECT
KANSAS CITY, MO 64132
816-362-7944

BLACK, EUGENE C OM
3201 W 67TH ST
SHAWNEE MISSION, KS 66208
913-362-6868

BLACK, THOMAS C OPH
1010 CARONDELET DR
SUITE 416
KANSAS CITY, MO 64114
816-942-8555

BLIM, RICHARD D PD
4400 BROADWAY
KANSAS CITY, MO 64111
816-561-8100

BDDENHAUSEN, GARY E FP
104 N. 7TH HIGHWAY
BLUE SPRINGS, MO 64015

BOGART, DOUGLAS B IM
415 PENN PARK
2929 BALTIMORE
KANSAS CITY, MO 64108
816-756-0695

BORDY, MARVIN D PD
601 E 63RD ST
KANSAS CITY, MO 64110
816-363-6118

BORENSTINE, JOS PD
601 E 63RD ST
SUITE 311
KANSAS CITY, MD 64110
816-333-8666

BORTNICK, EUGENE OTO
6724 TROOST AVE STE 200
KANSAS CITY, MO 64131
816-333-6996

BOTWIN, ARNOLD E GS
404 HIGHLANDS PROF TWR
6724 TROOST
KANSAS CITY, MO 64131
816-444-1013

BOWER, JAMES S IM
303T RESEARCH MED OF TDWER
6420 PROSPECT
KANSAS CITY, MO 64132
816-333-1919

BOWLIN, STEVEN K IM
6455 N. HICKORY
KANSAS CITY, MD 64118
531-4559

BOWSER, JDHN F R
3701 MADISON
KANSAS CITY, MO 64111
816-561-3991

BOYD, GEO K IM
4320 WORNALL RD
KANSAS CITY, MO 64111
816-931-1166

BOYER, PHILIP A IM
5 W. D'BRIEN
LEE'S SUMMIT, MO 64063
816-524-9630

BDYLAN, PETER C DRS
751 E. 63RD ST.
SUITE 300
KANSAS CITY, MO 64110
816-444-4664

BRABY, HOWARO H OBG
1515 W TRUMAN RO-STE 30
INOEPENOENCE, MO 64050
816-836-4200

BRADFDRD, JOHN F OPH
4320 WORNALL ST
KANSAS CITY, MO 64111
816-931-4840

BRADLEY, JAMES K IM
2929 BALTIMORE SUITE 545
KANSAS CITY, MO 64108
816-561-6277

BRAMS, JACK B IM
601 E 63RD ST STE 508
KANSAS CITY, MO 64110
816-361-8900

BRAND, STANLEY N GE
STATLAND CLINIC
6724 TROOST-SUITE 710
KANSAS CITY, MD 64131
816-333-6000

BRAUN, WILLIAM J PD
RESEARCH MEDICAL HOSP.
2316 E. MEYER BLVD.
KANSAS CITY, MO 64132
816-276-4000

BRAVERMAN, ABE E IM
8300 TRDOST
KANSAS CITY, MO 64131
816-363-7710

BREWER, JOSEPH H IM
SUITE 208 4320 WDRNALL
KANSAS CITY, MO 64111
816-531-0552

BRICK, JEFFREY M OPH
504 HIGHLANDS PROF. TOWER
6724 TRDOST
KANSAS CITY, MO 64131
816-333-5515

BROCK, ARTHUR L GE
1516 W. TRUMAN RD
INDEPENDENCE, MO 64050
816-836-1616

BRODKEY, MARK J U
6400 PROSPECT AVE
KANSAS CITY, MO 64132
816-333-6403

BROOK, CHARLES J PUD
6420 PROSPECT
SUITE T-303
KANSAS CITY, MO 64132
816-333-1919

BROTHERS, MARY E GS
2727 MAIN ST.
KANSAS CITY, MO 64108
816-842-3480

BROWER, CLYDE L GP
118 S. WILLIS ST.
INDEPENDENCE, MO 64050
816-461-1387

BROWN, ADRIAN J GP
12 EAST 63RO ST
KANSAS CITY, MO 64113
816-333-6286

BROWN, ELWYN S AN
24TH AND GILLHAM RD
KANSAS CITY, MO 64108
816-234-3281

BROWN, FRANCES S IM
608 N.E. BURNING TREE LANE
LEE'S SUMMIT, MO 64063
816-836-1437

BROWN, IRWIN S U
RR #1
LA CYGNE, KS 66040
913-757-4484

BRDWN, MENZIE H R
2929 BALTIMORE AVE
SUITE 340
KANSAS CITY, MO 64108
816-756-1049

BROWN, ROBT S OBG
2929 BALTIMDRE STE 200
KANSAS CITY, MO 64108
816-561-9496

BROWN, SCOTT S IM
TRUMAN MEDICAL CTR.
2301 HOLMES ST.
KANSAS CITY, MO 64108
816-556-3000

BROWNE, JDN E ORS
751 E. 63RD ST.
SUITE 300
KANSAS CITY, MO 64110
816-444-4664

BRUMM, LAWRENCE W FP
6400 PROSPECT ST
KANSAS CITY, MD 64132
816-361-9507

BRUNER, RDBT E CHN
14909 LITTLE BLUE RD
KANSAS CITY, MO 64136
816-373-2996

BRUNTDN, STEPHEN A FP
1740 W. 92ND ST.
KANSAS CITY, MO 64114
816-333-9700

BRYAN, WM H GS
3939 PROSPECT
KANSAS CITY, MO 64130
816-861-2510

BRYANT, T J IM
615 HIGHLANDS PROF TOWER
6724 TROOST
KANSAS CITY, MO 64131
816-444-9348

BUCHANAN, BARBARA N CHP
4400 BRDADWAY
KANSAS CITY, MO 64111
816-561-2025

BUCHWACH, KENNETH A OTO
4240 BLUE RIDGE BLVD.
SUITE 434
KANSAS CITY, MO 64133
816-358-7177

BUCKNER, RDBT C OBG
328 ST JOSEPH MED BLDG
1010 CARONDELET DR
KANSAS CITY, MO 64114
816-941-0700

BUDKE, HAROLD A GP
1219 W. 66TH TERRACE
KANSAS CITY, MO 64113
816-444-8065

BUHLER, VICTOR B PTH
APT. 1004
2510 GRAND AVE.
KANSAS CITY, MO 64108
816-471-4949

BUIE, BRUCE R GP
11201 COLORADO
KANSAS CITY, MO 64137
816-763-5200

BUNTING, WILLISTON P OTO
1231 W 62ND
KANSAS CITY, MD 64113
816-444-4310

BURRY, VIRGIL F PD
CHILORENS MERCY HOSP
KANSAS CITY, MO 64108
816-234-3015

BURTON, MELVIN K IM
8331 SWITZER
OVERLAND PARK, KS 66214
816-363-5350

BUTCHER, RDBT W IM
7924 PASEO ST
KANSAS CITY, MO 64131
816-333-0600

BUTT, ATTA U P
SUITE 11
751 E. 63RD ST.
KANSAS CITY, MD 64110
816-333-0557

BUTTERWORTH, NELSDN S IM
725 W 49TH TERRACE
KANSAS CITY, MO 64112
816-561-4499

BYARS, STEVEN R OPH
6724 TROOST SUITE 202
KANSAS CITY, MO 64131
816-333-1120

CABANAS, JUSTO J P
2105 INDEPENDENCE AVE.
ROOM 873
KANSAS CITY, MO 64124
816-283-2873

CAFFREY, RAYMOND J PTH
1314 W RED BRIDGE RD
KANSAS CITY, MO 64114
816-942-1686

CALDWELL, JDHN K FP
6700 TROOST SUITE 308
KANSAS CITY, MD 64131
816-523-2399

CALLAWAY, JO J P
4320 WORNALL
KANSAS CITY, MO 64111
816-561-2524

CALLAWAY, LAWRENCE A PTH
LABDRATORY TRINTY LUTHERAN
31ST & WYANDOTTE
KANSAS CITY, MO 64108
816-753-4600

CALLENBACH, JOHN C PD
CHILDRENS MERCY HDSPITAL
KANSAS CITY, MO 64108
816-234-3593

CALOVICH, EMERY R PUD
4620 J C NICHOLS PKWY
KANSAS CITY, MO 64112
816-561-7288

CALTDN, ANGELA FP
8550 HOLMES SUITE 130
KANSAS CITY, MO 64131
816-523-1888

CAMPBELL, FREDERICK B CRS
4722 BROADWAY #254
KANSAS CITY, MO 64112
816-931-9383

CAMPBELL, JOHN G CRS
6420 PROSPECT
SUITE 311
KANSAS CITY, MO 64132
816-333-7565

*CAMPBELL, RONELLE L IM
7219 E. 87TH TERR #103
KANSAS CITY, MO 64138
816-585-2009

---

* Doctor of Osteopathy

CANENT, RAMON V PDC
24TH & GILLHAM RD
KANSAS CITY, MO 64108
816-234-3255
CAPPS, EUGENE C AN
7921 EL MONTE
SHAWNEE MISSION, KS 66208
913-381-6350
CARLSON, HJALMAR E U
525 PENN PARK MED CTR
2929 BALTIMORE
KANSAS CITY, MO 64108
816-531-1418
CARLSON, JOHN S PD
4400 BROADWAY STE 206
KANSAS CITY, MO 64111
816-561-8100
CARTER, JAMES E FP
7800 PASEO
KANSAS CITY, MO 64131
816-523-3055
CARUSO, ALFRED A OBG
1020 E 75TH WAY
KANSAS CITY, MO 64131
816-523-0300
CASE, WM F FPH
416 CARONDELET MEDICAL
1010 CARONDELET DR
KANSAS CITY, MO 64114
816-942-8555
CASHMAN, JOHN W PH
SUITE T101
6420 PROSPECT
KANSAS CITY, MO 64132
816-363-4100
CAUGHRON, MICHAEL R PTH
2316 E MEYER BLVD.
KANSAS CITY, MO 64132
816-276-4151
CENTNER, PAUL J GS
2727 MAIN ST
KANSAS CITY, MO 64108
816-842-3480
CERVENKA, FRANK J IM
7604 SNI-A-BAR
KANSAS CITY, MO 64129
816-924-4243
CHANDLER, ROBT A PS
4177 BROADWAY
KANSAS CITY, MO 64111
816-561-1414
CHANDRA, MAHESH IM
1515 W TRUMAN RD
SUITE 301
INDEPENDENCE, MO 64050
816-836-8130
CHANG, DAVID Y AN
101 MEMORIAL DR
KANSAS CITY, MO 64108
816-753-5700
CHAPMAN, DAVID W FP
SUITE 302
1515 W. TRUMAN RD.
INDEPENDENCE, MO 64050
816-836-8200
CHARETTE, RICHARD P PD
PRIME HEALTH
9150 E. 41ST TERR.
KANSAS CITY, MO 64133
356-5000
CHAUDHARY, MOHAMMAD A GE
440 SUBURBAN DOCTORS BLDG.
10550 QUIVIRA
SHAWNEE MISSION, KS 66215
913-888-3108
CHAUDHURI, SUDHA T OBG
6225 RAYTOWN TRAFFICWAY
RAYTOWN, MO 64133
816-353-2400
CHAUDHURI, TAPAN K IM
6225 RAYTOWN TRAFFICWAY
RAYTOWN, MO 64133
816-353-2400
CHEN, STUART GE
2411 HOLMES
KANSAS CITY, MO 64108
816-474-4100
CHERNOFF, SELBERT G IM
1001 NO. INDEPENDENCE AVE.
LEE'S SUMMIT, MO 64063
816-524-5600
CHIEN, WUI IM
5705 MC GEE
KANSAS CITY, MO 64113
816-531-4559
CHILDS, DONNALEA S CHP
4400 BROADWAY
KANSAS CITY, MO 64111
816-561-2025
CHILDS, RICHARD M P
4320 WORNALL RD STE 452
KANSAS CITY, MO 64111
816-531-2325
CHIONUMA, HENRY N IM
6801 CRAB APPLE CIRCLE
KANSAS CITY, MO 64129
CHOWDHURY, DIPAK IM
17421 MEDICAL CTR. PARKWAY
INDEPENDENCE, MO 64057
816-373-8919
CHRISTENSEN, SHANE R IM
532 SOUTH WILLOW
INDEPENDENCE, MO 64053
816-461-7937
CHUN, CHUNG S PD
6420 PROSPECT SUITE T 205
KANSAS CITY, MO 64132
816-363-1304
CHUNG, RICHARD T IM
1212 SOUTH LUTTRELL
BLUE SPRINGS, MO 64015
816-229-4555
CHURCHILL, STEPHEN W CHP
4400 BROADWAY
KANSAS CITY, MO 64111
816-561-2025
CIBIS, GERHARD W OPH
421 PLAZA MEDICAL BLDG
4620 JC NICHOLS PARK
KANSAS CITY, MO 64112
816-561-0306
CLARK, GRANVILLE E PO
6025 PROSPECT
KANSAS CITY, MO 64130
816-333-3112
CLARK, IRVING H FP
11909 MADISON
KANSAS CITY, MO 64145
816-942-2019
CLARK, JOHN A IM
3734 WARWICK #301
KANSAS CITY, MO 64111
816-531-4559
CLARKE, JOHN W FP
2300 E MEYER BLVD.
KANSAS CITY, MO 64132
816-276-4350
CLINE, MERLE A GP
4126 ST JOHN AVE
KANSAS CITY, MO 64123
816-483-3119
CLONTS, EDWIN L FP
8600 NW 64TH ST.
PARKVILLE, MO 64152
816-587-0440
CLOTHIER, ROBT W PD
17500 MEDICAL CENTER PKWY
SUITE 5
INDEPENDENCE, MO 64057
816-373-1111
CLOUGH, CHAS A NS
4440 BROADWAY
KANSAS CITY, MO 64111
816-561-4655
COBURN, DONALD F NS
THE PLAZA, APT. 812
1303 DELAWARE AVE.
WILMINGTON, DE 19806
COCHRANE, JOS J GS
2929 BALTIMORE AVE
SUITE 240
KANSAS CITY, MO 64108
816-561-5880
COCKERELL, SANFORD F PD
11200 WINNER RD
INDEPENDENCE, MO 64052
816-252-9850
COFFEY, RALPH R GS
5211 WORNALL RD
KANSAS CITY, MO 64112
816-444-1422
COHEN, AVRAHM IM
2411 HOLMES
UMKC SCHOOL OF MEDICINE
KANSAS CITY, MO 64108
816-474-4100
*COHEN, DONALD L IM
SUITE 408
6724 TROOST
KANSAS CITY, MO 64131
816-361-2123
COHEN, HARRY K GP
6724 TROOST
SUITE 408
KANSAS CITY, MO 64131
816-361-2123
COHEN, LAWRENCE S CD
4949 ROCKHILL RD
KANSAS CITY, MO 64110
816-276-8259
COHEN, MARVIN C GS
6724 TROOST
SUITE 105
KANSAS CITY, MO 64131
913-931-5238
COKINGTIN, LEOVIGILDO C PD
SUITE 310
1515 W. TRUMAN RD.
INDEPENDENCE, MO 64050
816-833-0990
COLE, SHERMAN W P
221 PLAZA TIME BLDG
KANSAS CITY, MO 64112
816-531-9009
COLGLAZIER, MARY C IM
411 NICHOLS ROAD
KANSAS CITY, MO 64112
816-753-7496
COLLINS, JOHN W ORS
1734 E 63RD ST
KANSAS CITY, MO 64110
816-523-5511
COLOM, GEO A P
602 HIGHLANDS PROF TOWE
6724 TROOST
KANSAS CITY, MO 64131
816-333-5941
CONN, ROBT D CD
S. 410 MEDICAL PLAZA BLDG.
4320 WORNALL RD.
KANSAS CITY, MO 64111
816-931-1883
CONNER, W. EDWIN CRS
304 MEDICAL PLAZA
4320 WORNALL RD.
KANSAS CITY, MO 64111
816-531-5648
COPPINGER, THOS A IM
2929 BALTIMORE AVE SUIT
KANSAS CITY, MO 64108
816-756-0695
CORDELL, LARRY D ORS
6420 PROSPECT AVENUE
SUITE T207
KANSAS CITY, MO 64132
816-444-9000
CORTEZ, EDWIN A OTO
6724 TROOST
KANSAS CITY, MO 64131
816-333-6996
CORTNER, MARY C GP
6821 ROCKHILL RD.
KANSAS CITY, MO 64113
816-363-4646
COTTON, THOS R OTO
3725 BROADWAY
KANSAS CITY, MO 64111
816-931-2606
COUCHONNAL, GUILLERMO IM
9150 E. 41ST TERR.
KANSAS CITY, MO 64133
816-356-5000
COWAN, GEO A TR
6420 PROSPECT
SUITE T513
KANSAS CITY, MO 64132
816-363-2677
COWAN, JOHN H R
5500 W. 70TH ST.
SHAWNEE MISSION, KS 66208
816-932-2550
COX, KENNETH E OBG
4320 WORNALL DR
KANSAS CITY, MO 64111
816-531-9400
COX, WM L A
1212 W TRUMAN RD
INDEPENDENCE, MO 64050
816-836-5010
CRIE, JOHN S IM
101 MEMORIAL DR.
KANSAS CITY, MO 64108
816-753-0155
CROCKETT, JAMES E CD
4320 WORNALL RD
KANSAS CITY, MO 64111
816-931-1884
CRONEMEYER, RICHARD L DR
6700 TROOST SUITE 352
KANSAS CITY, MO 64131
816-363-5606
CROUCH, THOS T NEP
4320 WORNALL RD
KANSAS CITY, MO 64111
816-531-0552
CROW, JIMMIE R GS
7105 W. 69TH ST.
SHAWNEE MISSION, KS 66204
913-262-4623
CROW, MARTIN L PS
408 BROADWAY MED BLDG
4400 BROADWAY
KANSAS CITY, MO 64111
816-561-6633
CRUIKSHANK, STEPHEN H OBG
TRUMAN MED CTR.
2301 HOLMES
KANSAS CITY, MO 64108
816-556-3529
CULLEN, JOHN W PD
CHILDREN'S MERCY HOSP.
24TH & GILLHAM RD.
KANSAS CITY, MO 64108
816-234-3268
CURRAN, M D OPH
109 BROADWAY MED BLDG
4400 BROADWAY
KANSAS CITY, MO 64111
816-756-1333
CURRAN, TERRENCE OPH
4400 BROADWAY BLDG
KANSAS CITY, MO 64111
816-756-1333
CURTS, CALVIN J OPH
4320 WORNALL RD
KANSAS CITY, MO 64111
816-561-2289

---

* Doctor of Osteopathy.

CUTCLIFF, DANL J IM
6700 TROOST
KANSAS CITY, MO 64131
816-444-3205

CYGAN, RONALD W PD
373 W. 101ST TERR.
KANSAS CITY, MO 64114
816-942-8200

DAILY, DONNA K PD
CHILDREN'S MERCY HOSP.
24TH & GILLHAM RD.
KANSAS CITY, MO 64108
234-3592

DALL, LAWRENCE H IM
UMKC SCHOOL OF MED UNIT RED6
2411 HOLMES
KANSAS CITY, MO 64108
816-474-4100

DALTON, TIMOTHY T AN
11841 OAK ST
KANSAS CITY, MO 64114
816-942-2714

DARNELL, DALE E ORS
4320 WORNALL RD
KANSAS CITY, MO 64111
816-753-5102

DAVIDNER, MARK L IM
SUITE 700
6724 TROOST
KANSAS CITY, MO 64131
816-333-1326

DAVIDSON, KENDRICK C R
4320 WORNALL
KANSAS CITY, MO 64111
816-531-9481

DAVIS, ALEXANDER C IM
6724 TROOST SUITE 710
KANSAS CITY, MO 64131
816-333-6000

DAVIS, CARL S FP
LEE'S SUMMIT FAMILY CARE CTR
225 S. DOUGLAS
LEE'S SUMMIT, MO 64063
816-524-2626

DAVIS, DONALD R GS
4320 WORNALL RD
KANSAS CITY, MO 64111
816-561-6453

DAVIS, HERBERT V PD
4400 BROADWAY
KANSAS CITY, MO 64111
816-561-8100

DAVIS, JACK M IM
628 ROCKHILL MED. BLDG.
6700 TROOST
KANSAS CITY, MO 64131
816-363-6773

DAVIS, JOHN M IM
ROCKHILL MEDICAL BLDG.
6700 TROOST SUITE 628
KANSAS CITY, MO 64131
816-363-6773

DAVIS, W B DR
16104 RIGGS
STILLWELL, KS 66085
816-756-1050

DAY, CHESTER L P
4140 WEST 71ST ST.
SUITE 108
SHAWNEE MISSION, KS 66208
913-432-7276

DE FEO, FREDERICK G IM
8821 WIDMER RD.
SHAWNEE MISSION, KS 66215
913-888-8071

DE FEO, THEODORE C PTH
WORNALL RD AT 44TH ST
KANSAS CITY, MO 64111
816-932-2500

DE MOTT, JOHN D P
3618 SUNRISE DR.
SEBRING, FL 33870

DE WITT, DONALD E FP
SUITE 400 - 2900 BALTIMORE
KANSAS CITY, MO 64108
816-753-5700

DEEKEN, JAMES H D
411 NICHOLS RD STE 170
KANSAS CITY, MO 64112
816-561-9300

*DELANEY, ADRAIN J AN
6400 PROSPECT SUITE 142
KANSAS CITY, MO 64132
816-444-1139

DEMPSEY, HERBERT A GP
615 W 3RD ST
LEE'S SUMMIT, MO 64063
816-524-3799

DENNER, LEE J P
704 MEDICAL PL
4320 WORNALL RD.
KANSAS CITY, MO 64111
816-561-2524

DESHMUKH, MURLIDHAR R IM
9406 E 63RD ST
KANSAS CITY, MO 64133
816-356-1060

DESIRE, KATHLEEN M EM
600 E. 8TH APT 115
KANSAS CITY, MO 64106
816-474-4616

DEVINS, GEORGE S PUD
520 ROCKHILL MED. BLDG.
6700 TROOST
KANSAS CITY, MO 64131
816-363-0787

DIEHL, ANTONI M PDC
332 MEDICAL PLAZA
4320 WORNALL RD.
KANSAS CITY, MO 64111
816-753-4414

DIXON, GEO D DR
710 MEDICAL PLAZA
4320 WORNALL RD.
KANSAS CITY, MO 64111
816-531-9481

DIXON, WILLIAM D IM
4400 BROADWAY 316
KANSAS CITY, MO 64111
816-756-2520

DLABAL, LUKE J JR OTO
SUITE 205
17221 E. 23RD ST.
INDEPENDENCE, MO 64057
816-373-4300

DLABAL, LUKE J SR FP
3729 BLUE RIDGE BLVD.
INDEPENDENCE, MO 64052
816-353-8554

DOERING, ROBT W GS
SUITE 501
6420 PROSPECT AVE.
KANSAS CITY, MO 64132
816-333-8151

DOMBEK, STANLEY J CD
330 PENN PARK
2929 BALTIMORE
KANSAS CITY, MO 64108
816-531-0118

DONOHOE, CHARLES D N
17221 E 23RD ST
INDEPENDENCE, MO 64057
816-373-3213

DORSCH, ERVIN H GP
LAKE CITY ARMY AMMUNITI
INDEPENDENCE, MO 64050
816-796-7308

DORZAB, WILLIAM E PTH
MENORAH MEDICAL CENTER
4949 ROCKHILL RD
KANSAS CITY, MO 64110
816-276-8262

DOWNEY, JAMES W FP
2900 BALTIMORE
FOURTH FLOOR
KANSAS CITY, MO 64108
816-756-1577

DOWNS, DANIEL M ORS
1010 CARONDELET DR.
STE 426 CARONDELET BLDG
KANSAS CITY, MO 64114
816-941-0200

DRAKE, ROY F GS
236 ROCKHILL MED. BLDG.
6700 TROOST
KANSAS CITY, MO 64131
816-361-5512

DRANEY, THOS E PD
28 KIRK CUDBRIGHT DR.
HIWASSE, AR 72739
501-855-2651

DREHER, RICHARD L PD
CHILDREN'S MERCY HOSP
KANSAS CITY, MO 64108
816-342-3650

DRIEHORST, WILLIAM L IM
4935 WYANDOTTE ST.
KANSAS CITY, MO 64112
816-531-4559

DRISKO, ROBERT M ORS
2929 BALTIMORE AVE
KANSAS CITY, MO 64108
816-561-3003

DROWNS, BRUCE V D
4320 WORNALL RD
SUITE 728
KANSAS CITY, MO 64111
816-561-3641

DUBIN, SOL H ORS
SUITE 401
1515 W TRUMAN RD
INDEPENDENCE, MO 64050
816-254-4800

DUER, MILDRED C PD
324 E 69TH TERR
KANSAS CITY, MO 64113
816-444-0808

DUERKSEN, JOSEPH J AN
4407 W 54TH TERR
SHAWNEE MISSION, KS 66205
913-432-9348

DUGGAN, EILEEN D PD
CHILDRENS MERCY HOSP
24TH & GILLHAM RD
KANSAS CITY, MO 64108
816-234-3010

DUKSTEIN, WALTER G NM
6400 PROSPECT
KANSAS CITY, MO 64132
816-333-5787

DUNCAN, WM H GS
BUSINESS & INDUSTRAL HEALTH
ADMIRAL AT OAK
KANSAS CITY, MO 64106
816-842-1146

DUNLEAVY, JAMES D FP
4620 JC NICHOLS PKWY ST
SUITE 427
KANSAS CITY, MO 64112
816-931-8143

DURIE, ROBT H PUD
545 PENN PARK
2929 BALTIMORE
KANSAS CITY, MO 64108
816-561-6277

DURNELL, MONAFORD D FP
GOPPERT FAMILY CARE CTR
6601 ROCKHILL RD
KANSAS CITY, MO 64131
816-361-7333

DWYER, FRANK X D
4620 J. C NICHOLS PKWY
KANSAS CITY, MO 64112
816-531-1500

DYE, KEVIN R IM
3609 N. CHERRY
KANSAS CITY, MO 64116
531-4559

EARLY, GERALD L TS
DEPARTMENT OF SURGERY
2301 HOLMES
KANSAS CITY, MO 64108
618-556-3505

EARNEST, JAMES B CD
2929 BALTIMORE STE 415
KANSAS CITY, MO 64108
816-756-0695

EATON, PAULA OBG
2929 BALTIMORE SUITE 200
KANSAS CITY, MO 64108
816-561-9496

EBBERTS, JAMES W IM
628 ROCKHILL MEDICAL BLDG.
6700 TROOST
KANSAS CITY, MO 64131
816-363-6773

EISEMANN, GUSTAVE IM
STATLAND CLINIC
6724 TROOST SUITE 710
KANSAS CITY, MO 64131
816-333-6000

ELIAS, DAVID J GP
9306 E NEW 40 HIGHWAY
INDEPENDENCE, MO 64055
816-356-2000

ELKINS, ROBERT L U
703 HIGHLANDS PROF. TOWER
6724 TROOST
KANSAS CITY, MO 64131
816-333-0500

ELLERBECK, EDWARD IM
5153 NALL
MISSION, KS 66205
913-831-4705

ELLERBECK, KATHRYN A IM
5153 NALL
SHAWNEE MISSION, KS 66205
816-531-4559

ELLFELDT, HOWARD J DRS
SUITE T207
6400 PROSPECT
KANSAS CITY, MO 64132
816-444-9000

ELLIOTT, RAYMOND G FP
320 CARONDELET MEDICAL BLDG.
1010 CARONDELET DR.
KANSAS CITY, MO 64114
816-941-9666

ELLIOTT, WADE E GP
710 W 12TH ST
KANSAS CITY, MO 64105
816-842-7751

ELLIS, DAVID L GS
6724 TROOST
KANSAS CITY, MO 64131
816-333-9500

ELSER, OTTO H OPH
COM. OF HEALTH MINISTRIES
P. O. BOX 1059
INDEPENDENCE, MO 64050
816-833-1000

ENGELMANN, CALVIN E GS
2929 BALTIMORE AVE
KANSAS CITY, MO 64108
816-561-2202

ENGLEMAN, REINHOLD OS
11905 AVILA CT
KANSAS CITY, MO 64145
816-942-7713

ERICSSON, SAML E P
6724 TROOST H205
KANSAS CITY, MO 64131
816-361-0899

ESHELMAN, ALBERT D FP
9103 EAST 40 HIGHWAY
INDEPENDENCE, MO 64055
816-861-4020

---

* Doctor of Osteopathy

EUBANK, DAVID F PO
9406 E 63RD ST
RAYTOWN, MO 64133
816-356-1060

EUBANK, DILLARD M GP
2309 JENKINS
RAYMORE, MO 64083

EUBANK, WM Y IM
SUITE T101
6420 PROSPECT
KANSAS CITY, MO 64132
816-363-4100

EUPRASERT, PRICHA GS
6401 DEARBORN DR
SHAWNEE MISSION, KS 66202
913-362-3602

EVANS, JOS C GS
SUITE 402
1515 W. TRUMAN RD.
INDEPENDENCE, MO 64050
816-254-9292

EVANS, LAWRENCE L GS
4320 WORNALL
KANSAS CITY, MO 64111
816-531-6652

*EVERETT, JAMES E FP
11319 SUMMIT
KANSAS CITY, MO 64114
816-942-7814

EYNON, JAMES R CD
6420 PROSPECT T-509
KANSAS CITY, MO 64132
816-523-4535

FAIRCHILD, ROBT C PD
8425 RHEINHARDT LANE
SHAWNEE MISSION, KS 66206
913-648-5606

FARNHAM, MILO M IM
1515 W TRUMAN RD
INDEPENDENCE, MO 64050
816-833-4466

FAYNE, FRED A P
SUITE 200
6025 PROSPECT
KANSAS CITY, MO 64130
816-444-4477

FEDOTIN, MICHAEL S GE
6724 TROOST
SUITE 508
KANSAS CITY, MO 64131
816-333-5424

FEE, CHESTER F ORS
2929 BALTIMORE AVE
KANSAS CITY, MO 64108
816-561-3003

FEIST, GEO V GP
1103 W 86TH TERR
KANSAS CITY, MO 64114
816-363-7117

FELT, SAMUEL E PTH
MENORAH MED CTR DEPT OF PTH
4949 ROCKHILL RD.
KANSAS CITY, MO 64110
816-276-8262

FERBER, ALAN J OBG
9150 E. 41ST TERRACE
KANSAS CITY, MO 64133
816-356-5000

FERGUSON, DONALD S O
2608 W. PASEO
KANSAS CITY, MO 64108
816-241-2299

FERNS, FRANCIS E OBG
520 MEDICAL PLAZA
4320 WORNALL RD.
KANSAS CITY, MO 64111
816-531-9400

FERRIS, CARYL R IM
SUITE T101
6420 PROSPECT
KANSAS CITY, MO 64132
816-363-4100

FIBUCH, EUGENE E AN
ST LUKES HOSP
44TH AND WORNAL RD
KANSAS CITY, MO 64111
816-932-2033

FIORE, JOSEPH P IM
508 E. 44TH ST.
KANSAS CITY, MO 64110
816-931-8562

FISHER, JAMES K DR
710 MEDICAL PLAZA
4320 WORNALL RD.
KANSAS CITY, MO 64111
816-531-9481

FITZ SIMMONS, JAMES G OR
4320 WORNALL ROAD
710 MEDICAL PLAZA
KANSAS CITY, MO 64111
816-531-9481

FITZGERALD, ROBERT H ORS
5219 WEST 96TH STREET
OVERLAND PARK, KS 66207
913-649-2422

FLATLEY, JOHN A GS
512 ROCKHILL MEDICAL BLDG.
6700 TROOST
KANSAS CITY, MO 64131
816-361-6656

FLEMING, ALLAN R IM
2900 BALTIMORE MED. BLDG.
SUITE 530
KANSAS CITY, MO 64108
816-756-1456

FLES, ROBERT J JR OR
4918 JUNIPER
SHAWNEE MISSION, KS 66205
816-932-2550

FLETCHER, ROBERT C OPH
1010 CARONDELET DR
SUITE 112
KANSAS CITY, MO 64114
816-941-0020

FLICKER, MICHELE R IM
7909 NW NORTHWOOD
KANSAS CITY, MO 64151
816-741-5647

FLYNN, JAMES M PTH
MEYER & PROSPECT
RESEARCH HOSP
KANSAS CITY, MO 64132
816-276-4151

FOGEL, STEVEN T OBG
2304 W. 121ST
LEAWOOD, KS 66209
816-444-2505

FOLCK, WM P OM
ADMIRAL AT OAK STREET
KANSAS CITY, MO 64106
816-842-1146

FORGUE, DONALD R PO
CHILDRENS MERCY HOSP
24TH & GILLHAM RD
KANSAS CITY, MO 64108
816-234-3267

FORMAN, LOUIS H P
4320 WORNALL RD
KANSAS CITY, MO 64111
816-531-2325

FORSYTHE, LEES C IM
4320 WORNALL RD
KANSAS CITY, MO 64111
816-753-4312

FORSYTHE, ROBT W NS
220 MEDICAL PLAZA
4320 WORNALL RD
KANSAS CITY, MO 64111
816-531-3305

FORTIN, FELIX D DR
4320 WORNALL ROAD
KANSAS CITY, MO 64111
816-531-9481

FOUTS, DALLAS B IM
1515 W TRUMAN RD
SUITE 301
INDEPENDENCE, MO 64050
816-836-8130

FOWLER, FRED D NS
4320 WORNALL RD
KANSAS CITY, MO 64111
816-931-1150

FOWLER, JAMES W IM
200 W. 53RD TERR.
KANSAS CITY, MO 64112
816-523-9086

FRANCIS, MICHAEL G IM
2208 N. 10TH
BLUE SPRINGS, MO 64015
816-229-0505

FRANCISCO, CLARENCE B N
CHILDRENS MERCY HOSP DE
KANSAS CITY, MO 64108
816-234-3090

*FRANK, ROBERT A IM
3615 GILLHAM #1
KANSAS CITY, MO 64111
816-531-4559

FRANKLIN, CURTIS U P
4301 MAIN STE 14
KANSAS CITY, MO 64111
816-471-0692

FRANKS, ELLIOTT L IM
520 ROCKHILL MEDICAL BLDG.
6700 TROOST
KANSAS CITY, MO 64131
816-363-0787

FREEMAN, JERRY C OTO
3725 BROADWAY
KANSAS CITY, MO 64111
816-931-2606

FREIDEN, FLOYD J U
436 ROCKHILL MEDICAL BL
6700 TROOST
KANSAS CITY, MO 64131
816-333-5433

FRENCH, M. DEVONNE PD
P. O. BOX 5385
KANSAS CITY, MO 64131

FRIEDMAN, MORRIS L IM
601 E 63RD ST
SUITE 301
KANSAS CITY, MO 64110
816-333-6390

FRITZLEN, THOS J PTH
101 MEMORIAL DR
KANSAS CITY, MO 64108
816-753-5700

FUHRMAN, DONALD L O
4320 WORNALL
KANSAS CITY, MO 64111
816-561-3641

FURLONG, LAWRENCE D DR
1010 CARONDELET DR.
KANSAS CITY, MO 64114
816-942-6902

GADOR, FRANCISCO A EM
ST. MARY'S OF BLUE SPRINGS
201 W RD MIZE RD
BLUE SPRINGS, MO 64015

GAINES, ALBERT H GS
1734 E 63RD ST
SUITE 602
KANSAS CITY, MO 64110
816-523-0202

GAINEY, HAROLD L OBG
8127 PENNSYLVANIA LA
KANSAS CITY, MO 64114
816-363-6754

GAITONDE, MANGESH R P
10124 LOCUST
KANSAS CITY, MO 64131
816-942-9568

GALANT, MARK R IM
8 S. RIDGE AVE
LIBERTY, MO 64068
816-531-4559

GALBREATH, ASHFORD M JR IM
507 PLAZA PARKWAY BLDG
4620 J. C. NICHOLS PKWA
KANSAS CITY, MO 64112
816-753-6112

GARD, RAYMOND F GS
593 TERRACE DR
PRATT, KS 67124
672-2748

GARNER, JAMES H ORS
1010 CARONDELET DR. #426
KANSAS CITY, MO 64114
816-941-0200

GARRISON, ROY F PO
SUITE T205
6420 PROSPECT
KANSAS CITY, MO 64132
816-363-1304

GASKINS, JOHN H PS
F-10 LAKE LOTAWANA
LEE'S SUMMIT, MO 64063
816-578-4401

GAUTHIER, CHARLES P PTH
2316 E MEYER BLVD
KANSAS CITY, MO 64132
816-276-4151

GEHA, BRAHAM J IM
310 CARONDELET MED BLDG
1010 CARONDELET DR
KANSAS CITY, MO 64114
816-941-0800

GEIGER, WM A AN
6400 PROSPECT AVE STE 1
KANSAS CITY, MO 64132
816-444-1139

GENSTLER, DARRELL E OPH
650 BALTIMORE MED. BLDG
2900 BALTIMORE
KANSAS CITY, MO 64108
816-931-4733

GERMANN, DONALD R DR
710 MEDICAL PLAZA
4320 WORNALL RD
KANSAS CITY, MO 64111
816-932-2550

GHOLKAR, VIJAY R AN
ST LUKE'S HOSPITAL
44TH & WORNALL RD.
KANSAS CITY, MO 64111
816-932-2033

GIBBONS, ROBT T JR. AN
8422 REINHARDT LA.
SHAWNEE MISSION, KS 66206
913-341-4046

GIBSON, DAVID M PTH
ST LUKES HOSP
KANSAS CITY, MO 64111
816-932-2411

*GILGORE, ALFRED GP
9421 PFLUMM RD
LENEXA, KS 66215
913-888-1133

GILLISPIE, JOHN J IM
UMKC AFFILIATED HOSP.
IM MED PROG 2920 MCGEE
KANSAS CITY, MO 64108
816-531-4559

GINARDI, DONALD E IM
9734 WORNALL RD.
KANSAS CITY, MO 64114
816-941-9200

GINSBERG, NORMAN A PS
2929 BALTIMORE STE 320
KANSAS CITY, MO 64108
816-756-0066

GIST, WM W GS
1230 W. 66TH ST
KANSAS CITY, MO 64113
816-444-7573

---

* Doctor of Osteopathy.

Name and address	Specialty
GIVLER, ROBT L RESEARCH MEOICAL CENTER KANSAS CITY, MO 64132 816-276-4151	PTH
GLASER, LARRY F 6724 TROOST STE 300 KANSAS CITY, MO 64131 816-363-6500	ORS
GLASSCOCK, ERNEST L 6214 HIGH OR PRAIRIE VILLAGE, KS 66208 913-362-3393	PO
GLAZER, MELVIN L 8300 TROOST KANSAS CITY, MO 64131 816-363-7710	IM
GOERZ, ANN A 4336 OOVER INOEPENOENCE, MO 64055 816-373-0674	PO
GOERZ, ROYAL O 1515 W TRUMAN ROAD INDEPENOENCE, MO 64050 816-836-4200	OBG
GOETZ, KENNETH L WORNALL ROAO AT 44TH ST KANSAS CITY, MO 64111 816-932-2075	OS
GOHEEN, JOHN R 310 CARONOELET MEO. BLOG. 1010 CARONOELET OR KANSAS CITY, MO 64114 816-941-0800	PUO
GOLDMAN, BARRY C 7672 CANTERBURY PRAIRIE VILLAGE, KS 66208 913-648-7730	IM
GOLDMAN, STANLEY L SUITE 503 601 E 63RO ST KANSAS CITY, MO 64110 816-363-4933	A
GOLOSICH, EOWARO 4400 BROAOWAY KANSAS CITY, MO 64111 816-561-3767	OBG
GOLDSTEIN, MARVIN F 6724 TROOST 504 BRYAN BLDG KANSAS CITY, MO 64131 816-333-7805	OPH
GOOOSON, WM H 815 W 59TH ST KANSAS CITY, MO 64113 816-444-3010	IM
GOOLSBEE, ROBT L 6438 SAGAMORE SHAWNEE MISSION, KS 66208 913-362-5619	AN
GOTTSCH, JOSEPH C 2929 BALTIMORE AVE KANSAS CITY, MO 64108 816-531-6336	ORS
GOWOAMARAJAN, RENGASAMY 24TH & GILLHAM KANSAS CITY, MO 64108 816-234-3255	POC
GRAHAM, PATRICK G 4320 WORNALL RO KANSAS CITY, MO 64111 816-753-0600	TS
GRAHAM, WALLACE H 304 HIGHLANOS PROF TOWE 6724 TROOST KANSAS CITY, MO 64131 816-363-6707	GS
GRASHOFF, JOYCE A 9138 WEST 102ND. TERRACE OVERLANO PARK, KS 66212 913-381-0906	EM
GREEN, J. RICHARO 17221 E 23RO ST INOEPENOENCE, MO 64057 816-373-4646	GS
GREEN, THOMAS F 17500 MEO CTR PARKWAY STE 3 INDEPENOENCE, MO 64057 816-478-0220	OBG
GREENBERG, MARTIN T 373 W 101ST TERR KANSAS CITY, MO 64114 816-942-8200	IM
GRIFFIN, DONALO R 8728 CATALINA DR PRAIRIE VILLAGE, KS 66208 913-383-3467	AN
GRIFFITH, JOHN A 332 MEOICAL PLAZA 4320 WORNALL RO KANSAS CITY, MO 64111 816-531-5808	GS
GRIMES, ELWYN M SUITE 520 2900 BALTIMORE KANSAS CITY, MO 64108 816-931-2733	OBG
GROWDON, JOHN A 6508 ABERDEEN ROAO SHAWNEE MISSION, KS 66208 913-362-6333	GS
GRUNT, JEROME A CHILORENS MERCY HOSP 24TH & GILLAM RO. KANSAS CITY, MO 64108 816-234-3070	PO
GUASTELLO, JOS R 512 MEOICAL PLAZA 4320 WORNALL RO KANSAS CITY, MO 64111 816-753-5663	OTO
GUASTELLO, MARIO J 4320 WORNALL RO KANSAS CITY, MO 64111 816-753-5663	OTO
GUERRA, GASTON G 250 PENN PARK 2929 BALTIMORE KANSAS CITY, MO 64108 816-561-5880	GS
GUNOLE, SIGMUNO 3806 W. 79TH TERRACE PRAIRIE VILLAGE, KS 66208 913-642-0266	P
GUNN, RICHARD W 225 OZARK NATL LIFE BLOG. 906 GRAND KANSAS CITY, MO 64106 816-421-2949	IM
GUNNOE, ROBERT E 6420 PROSPECT SUITE T401 KANSAS CITY, MO 64132 816-333-5266	O
GURA, GEORGE M JR. 410 MEOICAL PLAZA 4320 WORNALL RO. KANSAS CITY, MO 64111 816-931-1883	CO
GUSTAFSON, JON E 1509 TRUMAN RO INOEPENDENCE, MO 64050 816-252-4700	R
GUTEK, EOWARO P 408 BROAOWAY MEO BLDG 4400 BROAOWAY KANSAS CITY, MO 64111 816-561-6633	PS
GUTKNECHT, RICHARO 17500 MED CTR PARKWAY STE 3 INOEPENDENCE, MO 64057 816-478-0220	OBG
HAAS, HARRY O 624 MEOICAL PLAZA 4320 WORNALL RO KANSAS CITY, MO 64111 816-531-1813	IM
HABIB, HENRY N 232 RESEARCH MED OFF BL 6400 PROSPECT KANSAS CITY, MO 64132 816-333-6403	U
HAGAR, OAVIO L RAYTOWN CLINIC 9406 E. 63RO ST. KANSAS CITY, MO 64133 816-356-1060	PO
HAHN, BRUCE H 209 SPRUCE LEE'S SUMMIT, MO 64063 816-524-3799	GS
HAHN, FREOERICK W 4240 BLUE RIOGE BLVO KANSAS CITY, MO 64133 816-358-7177	OTO
HAIGHT, J. MAX 4601 INOEPENOENCE AVE. KANSAS CITY, MO 64124 816-231-4822	GP
HAITH, EOWARO E SUITE 410 6724 TROOST KANSAS CITY, MO 64131 816-333-9500	GS
HAITH, WALTER F 2701 E 31ST ST KANSAS CITY, MO 64128 816-861-2300	OBG
*HALL, FREOERICK K CHILOREN'S MERCY HOSP 24TH & GILLHAM KANSAS CITY, MO 64108 816-234-3593	PO
HALL, JOHN C 4400 BROADWAY STE 505 KANSAS CITY, MO 64111 816-561-7783	O
HALL, ROBT T 24TH GILLHAM ROAD KANSAS CITY, MO 64108 816-234-3593	PD
HALPERIN, PHILLIP H MENORAH MEOICAL CENTER 4949 ROCKHILL RO. KANSAS CITY, MO 64110 816-276-8000	GS
HAMAKER, WILLIAM R 510 MEOICAL PLAZA 4320 WORNALL RD. KANSAS CITY, MO 64111 816-931-7743	TS
HAMBURGER, STEPHEN C 4409 W. 93RD SHAWNEE MISSION, KS 66207	IM
HAMILL, ROBT W 236 MEDICAL PLAZA 4320 WORNALL RO KANSAS CITY, MO 64111 816-531-2020	N
HANNAH, HAMNER 5100 SUNSET OR. KANSAS CITY, MO 64112 816-931-6366	CDS
HANNAH, PHYLLIS D 5101 OAK LEAF OR. KANSAS CITY, MO 64129 816-921-7686	IM
HANNAS, RALSTON R 11812 AVILA DR KANSAS CITY, MO 64114 816-942-7086	EM
HANSEN, THOMAS L 17500 MEOICAL CENTER PKWAY SUITE 5 INDEPENOENCE, MO 64057 816-373-1111	PO
HANSON, E J 4320 WORNALL RO STE 328 KANSAS CITY, MO 64111 816-931-1150	NS
HANSON, KARL H 4320 WORNELL STE 212 KANSAS CITY, MO 64111 816-531-0930	IM
HARBRECHT, JAMES J 730 MEOICAL PLAZA 4320 WORNALL RO. KANSAS CITY, MO 64111 816-531-5510	CD
HAROACRE, RUTH A P. O. BOX 27043 1121 E. 47TH ST. KANSAS CITY, MO 64110 816-561-8805	OS
HARDIN, WARO M 4712 PITTMAN RD. KANSAS CITY, MO 64133 816-531-4559	IM
HAROY, HENRY M 6606 OVERHILL RD SHAWNEE MISSION, KS 66208 913-362-3369	AN
HAROY, JOHN W AMER TELEPHONE & TELEGRAPH 811 MAIN BOX 1418 KANSAS CITY, MO 64141 816-391-2765	IM
*HARKINS, ANNA M APT 165 - 4203 N.E. OAVIOSON KANSAS CITY, MO 64116 816-531-4559	IM
HARLESS, MORRIS S RT 2 BOX 8B GALENA, MO 65656	GS
HARLOW, LLOYD M 2462 A BROOKLYN ST KANSAS CITY, MO 64127 816-483-8112	GS
HARLOW, RICHARO J JR 4317 N. BRIGHTON KANSAS CITY, MO 64117 816-453-4945	IM
HARRIN, WM R 300 MEOICAL PLAZA 4320 WORNALL RO KANSAS CITY, MO 64111 816-531-1234	U
HARRIS, BRUCE A 7130 EBY OR. #107 SHAWNEE MISSION, KS 66204 816-531-4559	IM
HARRIS, DAVIO J CHILORENS MERCY HOSP 24TH AT GILLNAM RO KANSAS CITY, MO 64108 816-234-3290	PO
HARRIS, LANNY W SUITE T415 6420 PROSPECT KANSAS CITY, MO 64132 816-523-1520	ORS
HARRIS, WELOON L 17500 MEOICAL CENTER PKWAY SUITE 5 INOEPENOENCE, MO 64057 816-373-1111	PO
HART, L W 4400 BROAOWAY STE 202 KANSAS CITY, MO 64111 816-561-2025	CHP
HARTMAN, GREGORY L 224 MEOICAL PLAZA 4320 WORNAL RO KANSAS CITY, MO 64111 816-531-2338	IM
HARTWIG, FREDERICK H 6400 PROSPECT AVE KANSAS CITY, MO 64132 816-333-8151	GS

---

* Doctor of Osteopathy

HARTWIG, RAYMOND W R
1211 W 64TH ST.
KANSAS CITY, MO 64113
816-333-5899

HARTZLER, GEOFFREY O IM
410 MEOICAL PLAZA
4320 WORNALL RO.
KANSAS CITY, MO 64111
816 931-1883

HAUSE, OREW W IM
PENN VALLEY MEOICAL GROUP IN
2929 BALTIMORE STE 415
KANSAS CITY, MO 64108
816-756-0695

HAUSHEER, HERMAN J OBG
1515 W TRUMAN RD STE 30
INOEPENOENCE, MO 64050
816-836-4200

HAYS, LARRY V GS
4320 WORNALL
KANSAS CITY, MO 64111
816-561-6453

HAZEN, ROBT M OTO
6420 PROSPECT
SUITE T313
KANSAS CITY, MO 64132
816-333-8188

HAZUKA, DAVIO F OR
4036 WEST 104TH TERR
SHAWNEE MISSION, KS 66207
913-381-1359

HEALY, BRIAN E ORS
426 CARONOELET MED. BLOG.
1010 CARONOELET OR.
KANSAS CITY, MO 64114
816-941-0200

HEDGE, SHRIPAO S IM
SUITE 428 6700 TROOST
KANSAS CITY, MO 64131
444-7444

HEILMAN, EOWARO J IM
6700 TROOST RM 604
KANSAS CITY, MO 64131
816-361-9066

HEISEL, MARY J IM
9150 E 41ST TERR
KANSAS CITY, MO 64133
816-356-5000

HELLERSTEIN, STANLEY PO
CHILDRENS MERCY HOSP
KANSAS CITY, MO 64108
816-234-3010

HELLING, THOMAS S GS
4320 WORNALL RO.
308 MEOICAL PLAZA
KANSAS CITY, MO 64111
816-753-7460

HELLMAN, RICHARO IM
MIOWEST DIABETES REFERRAL CT
6700 TROOST, SUITE 324
KANSAS CITY, MO 64131
816-363-4200

HEMAYA, RIZK M P
1010 CARONOELETE OR.
SUITE 340
KANSAS CITY, MO 64114
816-942-7009

HENOERSHOT, RICHARO J AN
ANESTHESIA ASSOC OF KC, INC.
6400 PROSPECT SUITE 142
KANSAS CITY, MO 64132
444-1139

HENRY, CLARKE L TS
4320 WORNALL RO
KANSAS CITY, MO 64111
816-753-0600

HENSON, BRUCE E IM
SUITE T101
6420 PROSPECT
KANSAS CITY, MO 64132
816-363-4100

HERDOIZA, ALFONSO W AN
751 E 63RO ST
KANSAS CITY, MO 64110
816-333-7484

HERMAN, EOWIN M R
900 HIGHLANO PROF TOWER
6724 TROOST
KANSAS CITY, MO 64131
816-333-8420

HERVEY, WM H AN
WORNALL RO AT 44TH
KANSAS CITY, MO 64111
816-932-2033

HERYER, JOHN W GS
4320 WORNALL RO.
SUITE 304
KANSAS CITY, MO 64111
816-531-5648

HIBBARD, BLAINE Z IM
4320 WORNALL RD
KANSAS CITY, MO 64111
816-753-4312

HICKERSON, WM H GP
4207 S. CRYSLER
INOEPENDENCE, MO 64050
816-373-8811

HIGGINS, RONALD A D
340 CARONOELET MEO OFF
1010 CARONDELET DR
KANSAS CITY, MO 64114
816-942-1150

HILL, JACK H PTH
8115 MEAOOW LANE
SHAWNEE MISSION, KS 66206
913-649-0284

HINK, FREDERICK W GP
10229 INDEPENOENCE AVE
INOEPENOENCE, MO 64053
816-252-0065

HIRSCH, JOE E CRS
2405 W. 71ST.
PRAIRIE VILLAGE, KS 66208

HODGSON, FRANK H GS
4301 MAIN ST
KANSAS CITY, MO 64111
816-753-3636

HOECH, GEO P AN
6400 PROSPECT
KANSAS CITY, MO 64132
816-444-1139

HOEPER, SAML D GP
12921 GRANDVIEW RD
GRANOVIEW, MO 64030
816-333-5092

HOEPER, SAMUEL O JR. IM
12921 GRANVIEW RO
GRANOVIEW, MO 64030
816-761-5588

HOF, DAVIO G PUO
530 MEOICAL PLAZA
4320 WORNALL RO.
KANSAS CITY, MO 64111
816-753-4312

HOFFMAN, JACOB S IM
3340 SHELBY OR.
LOS ANGELES, CA 90034
816-931-1311

HOFFMANN, ALAN L FP
6300 EVANSTON
KANSAS CITY, MO 64133
816-353-1191

HOFFMANN, LEE M PO
4914 BELINOER RO.
SHAWNEE MISSION, KS 66202

HOLDER, THOS M POS
509 BROADWAY MEO BLDG
4400 BROAOWAY
KANSAS CITY, MO 64111
816-931-5538

HOLKINS, JOHN M IM
6420 PROSPECT SUITE T509
KANSAS CITY, MO 64132
816-523-4525

HOLLINGER, LLOYO A PUO
6700 TROOST
KANSAS CITY, MO 64131
816-444-4700

HOLMAN, JOS G A
4620 J C NICHOLS PKWY
KANSAS CITY, MO 64112
816-561-8500

HOLT, WALDO S IM
4620 J C NICHOLS PKWY
KANSAS CITY, MO 64112
816-531-1500

HOLTON, EDWARO B GP
10901 WINNER RO
INOEPENDENCE, MO 64052
816-461-4252

HOOO, ROGER W ORS
2301 HOLMES ST.
KANSAS CITY, MO 64108
816-556-3561

HOOK, WALLER G CRS
10010 EL MONTE
SHAWNEE MISSION, KS 66207
913-649-0224

HOPKINS, JAMES P PS
6700 TROOST AVE
KANSAS CITY, MO 64131
816-523-7811

HORNSTRA, ROBIJN K P
6724 TROOST
KANSAS CITY, MO 64131
816-361-0899

HOUSTON-OITTMER, MONICA T IM
SUITE 208 1010 CARONOELET
KANSAS CITY, MO 64114
816-942-4400

HOWARD, CAMPBELL P PO
CHILDREN'S MERCY HOSP.
24TH ANO GILLHAM RD.
KANSAS CITY, MO 64108
816-234-3072

HUGHES, MICHAEL F OTO
1010 CARONOELET OR.
SUITE 224
KANSAS CITY, MO 64114
816-942-7200

HUGHES, ROBERT E PO
4400 BROAOWAY
KANSAS CITY, MO 64111
816-561-8100

HUNKELER, JOHN O OPH
2900 BALTIMORE
SUITE 650
KANSAS CITY, MO 64108
816-931-4733

HUNT, THOS R NS
6400 PROSPECT AVE
KANSAS CITY, MO 64132
816-363-1100

HUNZICKER, WARREN J IM
1248 STRATFORD RO.
KANSAS CITY, MO 64113

HUSE, WM J OBG
2929 BALTIMORE
SUITE 200
KANSAS CITY, MO 64108
816-561-9496

HUSTEAD, RUSSELL M OBG
1010 CARONOELET SUITE 328
KANSAS CITY, MO 64114
816-941-0700

HUSTON, KENT A RHU
4320 WORNALL RO
MEO PLAZA BLO ST 212
KANSAS CITY, MO 64111
816-531-0930

HYOE, LAWRENCE L OPH
2900 BALTIMORE
SUITE 650
KANSAS CITY, MO 64108
816-931-4733

HYNES, MICHAEL F PS
1010 CARONOELET
SUITE440
KANSAS CITY, MO 64114
816-942-5900

IBARRA, GUILLERMO P
4400 BROAOWAY
KANSAS CITY, MO 64111
816-931-2947

INGHAM, WALTON C GS
424 MEOICAL PLAZA
4320 WORNALL RD.
KANSAS CITY, MO 64111
816-753-1442

IRVINE, JOHN W OPH
8800 E 63RO ST
RAYTOWN, MO 64133
816-353-7331

IRWIG, FREO IM
5109 W 87TH ST.
SHAWNEE MISSION, KS 66207
913-642-4422

*IRWIN, JOHN H IM
6512 E. 55TH TERR
KANSAS CITY, MO 64129
816-923-6181

ISER, JOSEPH P IM
1310 MANHEIM RO.
KANSAS CITY, MO 64109
816-756-1637

JACKSON, DOROTHY IM
7110 E 131 ST
GRANOVIEW, MO 64030
816-763-1466

JACKSON, HAYWOOO R IM
3317 E 43RO ST
KANSAS CITY, MO 64130
816-921-6000

JACOBS, MORTON P
6315 BROOKSIOE PLAZA
KANSAS CITY, MO 64113
816-363-5131

JACOBS, WALTER H GE
6724 TROOST AVE. #710
KANSAS CITY, MO 64131
913-432-8363

JACOBSON, MICHAEL NEP
6700 TROOST SUITE 500
KANSAS CITY, MO 64131
816-361-0670

JAMES, OTIS E ORS
7929 BRISTOL COURT
SHAWNEE MISSION, KS 66208
913-648-7929

JELLEY, V C ORS
P. O. BOX 370
BLUE SPRINGS, MO 64015
816-229-2781

JENAB, MORTEZA J CD
6700 TROOST SUITE 428
428 ROCKHILL MEO. BLDG.
KANSAS CITY, MO 64131
816-444-7444

JENKINS, OAVIO C CLP
COMMUNITY BLOOD CTR
4040 MAIN
KANSAS CITY, MO 64111
816-753-4040

JENNETT, J H IM
APT. 1006 - 333 MEYER WEST
KANSAS CITY, MO 64113
816-842-3121

JHAVERI, URMILA BABUBHAI AN
WAYNE MINER HEALTH CTR.
825 EUCLIO AVE.
KANSAS CITY, MO 64124

---

* Doctor of Osteopathy.

JOHNSON, C L   U
525 PENN PARK MED. CTR.
2929 BALTIMORE
KANSAS CITY, MO 64108
816-531-1418
JOHNSON, OALLAS A   O
6700 TROOST STE 504
KANSAS CITY, MO 64131
816-333-4943
JOHNSON, GARETH R   PTH
13111 E. 57TH ST.
KANSAS CITY, MO 64133
816-356-0954
JOHNSON, JAMES S   OBG
4301 CLEVELANO
KANSAS CITY, MO 64130
816-861-4250
JOHNSON, JOS E   FP
707 W MONTCREW
KANSAS CITY, MO 64114
816-763-5200
JOHNSON, NELSON E   OBG
SUITE 613
6724 TROOST
KANSAS CITY, MO 64131
816-444-6422
JOHNSON, RICHARD L   IM
6420 PROSPECT
SUITE T101
KANSAS CITY, MO 64132
816-363-4100
JOHNSON, THOMAS W   FP
210 WEST 99TH TERRACE
KANSAS CITY, MO 64114
816-942-0653
JOHNSON, THOS M   GS
8127 EL MONTE
SHAWNEE MISSION, KS 66208
913-383-1386
JOHNSON, WARREN L   CO
410 MEDICAL PLAZA
4320 WORNALL RO
KANSAS CITY, MO 64111
816-931-1883
JONAS, HARRY S   OBG
DEAN UMKC SCHOOL OF MEO
2411 HOLMES
KANSAS CITY, MO 64108
816-474-4100
JONES, GALE O   AN
6400 PROSPECT STE 142
KANSAS CITY, MO 64132
816-444-1139
JONES, MARION E   U
2462A BROOKLYN AVE
KANSAS CITY, MO 64127
816-483-6363
JONES, MAYNARO C   OR
3612 BASSWOOD DR.
LEE'S SUMMIT, MO 64063
816-478-1368
JONES, ROBERT P   ORS
SUITE 501 BLUE RIDGE TOWER
4240 BLUE RIDGE BLVD.
KANSAS CITY, MO 64133
816-356-3100
JONES, SAML T   OPH
9915 CHEROKEE LN
SHAWNEE MISSION, KS 66206
913-642-4663
JONES, T R   IM
4320 WORNALL RO SUITE 6
KANSAS CITY, MO 64111
816-561-6800
JOYCE, STEVEN T   ORS
610 MEOICAL PLAZA
4320 WORNALL RD.
KANSAS CITY, MO 64111
816-531-5757
JUOY, BERNARD O   IM
310 CARONOELET MEO. BLOG.
1010 CARONDELET OR.
KANSAS CITY, MO 64114
816-941-0800
JUSTUS, JOHN B   IM
4620 J C NICHOLS PKWY
KANSAS CITY, MO 64112
816-531-1500
KAHN, MARVIN   IM
STATLAND CLINIC
6724 TROOST-STE 710
KANSAS CITY, MO 64131
816-333-6000
KANAREK, JOSEPH   PD
601 E 63RO ST
KANSAS CITY, MO 64110
816-333-8666
KANDT, RAYMONO E   OPH
416 CARONDELET MEDICAL
1010 CARONDELET DR
KANSAS CITY, MO 64114
816-942-8556
KANTOR, JULIUS M   PD
601 E 63RD ST SUITE 406
KANSAS CITY, MO 64110
816-363-6118
KANTOR, SAML   OPH
13315 E. ARKANSAS AVE
AURORA, CO 80012

KARTUS, IRVING   P
PO BOX 6453
LEAWOOO, KS 66206
KASSAR, NAIM S   OBG
TRUMAN MEO. CTR. DEPT OBG
2301 HOLMES ST.
KANSAS CITY, MO 64108
816-556-3355
KAUFMAN, ANOREW B   NS
400 ROCKHILL MED. BLO.
6700 TROOST
KANSAS CITY, MO 64131
816-363-2500
KAUFMANN, HERBERT H   OBG
6724 TROOST STE 210
KANSAS CITY, MO 64131
816-444-2505
KAUL, PHILIP G   IM
4320 WORNALL RO
KANSAS CITY, MO 64111
816-531-2338
*KAVANAUGH, CAROL C   IM
3615 GILLHAM RD #1
KANSAS CITY, MO 64111
816-531-4559
KAY, BILLY F   IM
10326 SAGAMORE LANE
SHAWNEE MISSION, KS 66206
KAYANAN, JOSE C   GS
335 PENN PARK
2929 BALTIMORE
KANSAS CITY, MO 64108
816-561-6365
KEAIRNES, HAROLO W   IM
300 ROCKHILL MEO. BLDG.
6700 TROOST
KANSAS CITY, MO 64131
816-444-6122
KEITGES, PIERRE W   PTH
PHYSICIANS REF. LAB.
1010 W. CARONOELET OR
KANSAS CITY, MO 64114
816-942-8100
KELLING, DOUGLAS G   OM
11021 WEST 96TH TERRACE
OVERLAND PARK, KS 66214
913-888-8861
KELLY, CHARLES R   PM
ST. LUKE'S HOSP
44TH AND WORNALL RO.
KANSAS CITY, MO 64111
816-932-2020
KELTNER, RAYMONO O   OBG
4400 BROAOWAY-SUITE 302
KANSAS CITY, MO 64111
816-753-7060
KENOALL, CHAS A   IM
4240 BLUE RIDGE BLVO
KANSAS CITY, MO 64133
816-356-8877
KENOALL, FORREST H   OTO
SUITE 224
1010 CARONOELET DR
KANSAS CITY, MO 64114
816-942-7200
KENOALL, MALCOLM E   CO
6420 PROSPECT T509
KANSAS CITY, MO 64132
816-523-4525
KENNEDY, FREO R   GS
4320 WORNALL RD
KANSAS CITY, MO 64111
816-561-6453
KENNEDY, TIMOTHY O   R
2929 BALTIMORE ST E340
KANSAS CITY, MO 64108
816-756-1050
KENNEY, JOHN D   AN
SUITE 12
751 E 63RO ST
KANSAS CITY, MO 64110
816-333-7484
KENT, BELA K   OBG
6724 TROOST AVE
KANSAS CITY, MO 64131
816-333-3305
KERNOOLE, JEFFERSON O   PTH
P O BOX 2778
KANSAS CITY, MO 64142
816-842-4850
KERR, HAROLO H   TS
41 POQUITO RO.
SHALIMAR, FL 32579
KETTERMAN, GRACE H   CHP
CRITTENTON CENTER
10918 ELM AVE.
KANSAS CITY, MO 64134
816-765-6600
KETTERMAN, HERBERT L   GP
11201 COLORAOO
KANSAS CITY, MO 64137
816-763-5200
KHARE, NARENDRA K   U
TRUMAN MED. CTR.
2301 HOLMES
KANSAS CITY, MO 64108
816-556-3313
KHOURY, CECILE S   AN
10204 HOWE LANE
LEAWOOO, KS 66206
913-381-5644

KILLEN, DUNCAN A   TS
510 MEO PLAZA BLDG
4320 WORNALL RO
KANSAS CITY, MO 64111
816-931-7743
KIMBALL, MERRITT H   AN
610 E 36TH
KANSAS CITY, MO 64109
816-531-2094
KIMBLE, HARVEY S   AN
P.O. BOX 10126
KANSAS CITY, MO 64111
816-931-2120
KINOREO, LYNN H   CO
4320 WORNALL
KANSAS CITY, MO 64111
816-531-5510
KING, JAY T   CD
4320 WORNALL RO.
KANSAS CITY, MO 64111
816-531-2140
KINGSBURY, HELEN   AN
6415 SAGAMORE RO
SHAWNEE MISSION, KS 66208
913-362-6782
KIRCHMER, JOHN T   TS
SUITE T211 RESEARCH MED OFF
6420 PROSPECT AVE.
KANSAS CITY, MO 64132
816-523-8120
KITCHEN, WM M   R
2929 BALTIMORE AVE
KANSAS CITY, MO 64108
816-756-1050
KLEIN, EDWARO H   GS
7011 RAE AVE
PRAIRIE VILLAGE, KS 66208
913-362-7011
KNIGHT, LYLE B   GP
108 MADISON
LEE'S SUMMIT, MO 64063
816-524-3655
KNOCH, H K   OBG
328 ST JOSEPH MEO BLDG
1010 CARONOELET OR
KANSAS CITY, MO 64114
816-941-0700
KOHAKE, GEORGE A   IM
401 E. 70TH
KANSAS CITY, MO 64131
816-531-4559
KOOGLER, ROBERT J   IM
4839 SKYLINE DR.
MISSION, KS 66205
913-384-2356
KOONTZ, PAUL G   GS
4320 WORNALL RO
KANSAS CITY, MO 64111
816-753-7460
KOPP, KENNETH R   IM
373 W. 101ST TERR.
KANSAS CITY, MO 64114
816-942-8200
KOPPERMAN, MORDECAI   OR
900 HIGHLANO PROFESSION
6724 TROOST
KANSAS CITY, MO 64131
816-333-8420
KOPPERS, LAWRENCE E   IM
4320 WORNALL RD.
MED PLAZA II SUITE 55
KANSAS CITY, MO 64111
816-561-6464
KOPRIVICA, PRESTON B   EM
3942 MERCIER
KANSAS CITY, MO 64111
KORTH, WM M   GS
5880 44TH AVE. NORTH
ST. PETERSBURG, FL 33709
KOURY, WILLIAM C   OR
4320 WORNALL RO STE 710
KANSAS CITY, MO 64111
816-531-9481
KRAFT, JACOB   GS
6700 TROSST
KANSAS CITY, MO 64131
816-523-1050
KRANSON, SEYMOUR J   PO
909 W JOHSTON AVE
HEMET, CA 92343
714-925-5425
KRETZSCHMAR, ROBERT M   OBG
TRUMAN MEOICAL CENTER
2301 HOLMES
KANSAS CITY, MO 64108
816-556-3529
KRISHNA, PAOMA   PD
WAYNE MINER HEALTH CENTER
825 EUCLIO
KANSAS CITY, MO 64124
816-474-4920
KUHN, WM F   OM
6247 BROOKSIOE BLVO
KANSAS CITY, MO 64113
816-333-4610
KUNZ, STEPHEN R   R
4320 WORNALL RO. SUITE 128
KANSAS CITY, MO 64111
816-561-5858

---

* Doctor of Osteopathy.

KURTZ, KARL J	4400 BROADWAY SUITE 412 KANSAS CITY, MO 64111 816-561-7200	U
KYGER, JOHN E	17421 MEDICAL CENTER PARKWAY INDEPENDENCE, MO 64057	AN
LA BRIE, JOHNETT P	3600 BROADWAY SUITE 25 KANSAS CITY, MO 64111 816-753-5440	FP
LABACH, JAMES P	PHYSICIANS REFERENCE LAB 1010 W. CARONDELET KANSAS CITY, MO 64114 816-556-3212	PTH
LABAYEN, RICARDO A	7031 SANTA FE DR. SHAWNEE MISSION, KS 66204 913-362-5585	EM
LABRIE, PAUL L	INDEPENDENCE SURGICAL CLINIC 17221 E 23RD ST. INDEPENDENCE, MO 64057 314-373-4646	GS
LAIBEN, GREGG R	17421 MEDICAL CTR. PKWY INDEPENDENCE, MO 64057 816-229-3314	IM
LALLY, JAMES J	4620 NICHOLS PKWY KANSAS CITY, MO 64112 816-931-6190	GS
LAMBERT, LAURA M	2 ST. MARK CIRCLE ORMOND BEACH, FL 32074	GP
LAMBIE, RODGER W	900 HIGHLAND PROF TOWER 6724 TROOST KANSAS CITY, MO 64131 816-333-8420	R
LANDERS, BURNELL	6400 PROSPECT SUITE 300 KANSAS CITY, MO 64132 816-333-1821	GE
LANDIS, GEO K	9826 SHEPHERD'S CIRCLE KANSAS CITY, MO 64131 816-942-6633	IM
LANGLEY, HARRIET S	5900 STATE LINE RD SHAWNEE MISSION, KS 66208 913-362-7234	IM
LAPI, ANGELO	2012 STRATFORD RD SHAWNEE MISSION, KS 66208 913-362-4127	PTH
LARSEN, WM E	2929 BALTIMORE KANSAS CITY, MO 64108 816-756-0695	IM
LATHAM, RAYMOND W	206 BROADWAY MED. BUILDING 4400 BROADWAY KANSAS CITY, MO 64111 816-561-8100	PD
LAUER, DANL J	236 MEDICAL PLAZA 4320 WORNALL RD KANSAS CITY, MO 64111 816-531-2020	IM
LAYLE, JOHN K	4320 WORNALL KANSAS CITY, MO 64111 816-531-0930	IM
LAYTON, IRA C	6420 PROSPECT SUITE T101 KANSAS CITY, MO 64132 816-363-4100	IM
LEDERER, CHARLES M JR	6724 TROOST SUITE 202 KANSAS CITY, MO 64131 816-333-3525	DPH
LEE, GERALD B	101 MERMORIAL DR KANSAS CITY, MO 64108 816-753-0155	CD
LEE, HENRY A	6700 TROOST 352 ROCKHILL MED BLD KANSAS CITY, MO 64131 816-363-5606	R
LEE, KING Y	6700 TROOST AVE KANSAS CITY, MO 64131 816-333-7376	OPH
LEE, LAWRENCE E	DIAGNOSTIC ULTRASOUND & RAD 3720 NORTH ALLWOOD TUCSON, AZ 85715	TR
LEE, TAE H	300 THE CITADEL 1743 E. 63RD ST. KANSAS CITY, MO 64110 816-444-2098	NEP
LEES, JOYCE M	TRINITY LUTHERAN HOSP 31ST & WYANDOTTE ST KANSAS CITY, MO 64108 816-753-4600	EM
LEESE, PHILIP T	5100 E. 24TH ST. KANSAS CITY, MO 64127 816-483-1850	EM
LEGARDA, MARIA M	2700 HOSPITAL DR. SUITE 501 N. KANSAS CITY, MO 64116 816-444-4082	N
LEGLER, LARRY E	1515 W. TRUMAN RD. SUITE 504 INDEPENDENCE, MO 64050 816-254-6666	FP
LEHNER, RICHARD L	12425 434TH AVE. SE NORTH BEND, WA 98045	CD
LEIBSOHN, JOEL M	1515 W TRUMAN RD SUITE 505 INDEPENDENCE, MO 64050 816-836-8166	OPH
LEIFER, WM W	703 HIGHLANDS PROF TOWE 6724 TROOST KANSAS CITY, MO 64131 816-333-0500	U
LENTZ, CLARK H	2600 W. 69TH ST. SHAWNEE MISSION, KS 66208 913-362-7515	DM
LENTZ, HAROLD C	1515 W. TRUMAN RD. SUITE 404 KANSAS CITY, MO 64050 816-836-8831	U
LEON, MICHELLE D	25 E. 49TH ST. #2-S KANSAS CITY, MO 64112 816-531-4559	EM
LERNER, BRUCE	8953 LINDEN LANE PRAIRIE VILLAGE, KS 66207	AN
LETIZIA, WAYNE L	1515 W. TRUMAN RD. INDEPENDENCE, MO 64050 816-833-4466	IM
LEVEY, HARRY B	310 HIGHLANDS PROFESSIO 6724 TROOST KANSAS CITY, MO 64131 816-333-3305	OBG
LEVI, BERNARD	4949 ROCKHILL RD. KANSAS CITY, MO 64110 314-276-8259	IM
LEVINE, MONROE I	TRUMAN MEDICAL CTR 2301 HOLMES KANSAS CITY, MO 64108 816-556-3561	ORS
LEWIS, FRANK H	1515 W. TRUMAN RD. SUITE 403 INDEPENDENCE, MO 64050 816-836-1616	IM
LEWIS, REVIS C	PENN PARK MED BLDG STE 2929 BALTIMORE KANSAS CITY, MO 64108 816-561-8288	NS
LEWITTON, SOLOMON	410 HIGHLAND PROF TOWER 6724 TROOST KANSAS CITY, MO 64131 816-333-9500	GS
LIANG, JING C	17221 E 23RD INDEPENDENCE, MO 64057 816-373-4646	GS
LICHTOR, JOS M	6724 TROOST SUITE 409 KANSAS CITY, MO 64131 816-363-5442	DRS
LILIEDAHL, ROGER L	6700 TROOST AVE. SUITE 600 KANSAS CITY, MO 64131 816-523-7777	AN
LINDGREN, CARLETON J	4240 BLUE RIDGE BLVD KANSAS CITY, MO 64133 816-358-6262	P
LINDQUIST, CARL N	RT 4 BOX 150 REEDS SPRING, MO 65737	OM
LINK, VANCE E	SUITE 302 1515 W. TRUMAN RD. INDEPENDENCE, MO 64050 816-836-8200	FP
LINVILLE, HOWARD E	6700 TROOST AV STE 444 KANSAS CITY, MO 64131 816-333-2424	GS
LITTON, NANCY J	BOX 309 BLUE SPRINGS, MO 64015 816-556-3000	PTH
LIU, BEN C	310 HIGHLANDS PROFESSIO 6724 TROOST KANSAS CITY, MO 64131 816-333-3305	DBG
LIU, JOHNS N	6724 TROOST SUITE 900 KANSAS CITY, MO 64131 816-333-8420	R
LOCKWOOD, GARY F	4320 WORNALL RD STE 520 KANSAS CITY, MO 64111 816-531-9400	DBG
LOCKWOOD, TED E	408 BROADWAY MEDICAL BLDG. 4400 BROADWAY KANSAS CITY, MO 64111 816-561-6633	PS
LOFTUS, LORETTA S	4320 WORNALL RD. SUITE 530 KANSAS CITY, MO 64111 816-753-4312	IM
LOHRENTZ, LOIS H	2800 W 50TH TERRACE SHAWNEE MISSION, KS 66205 913-333-7484	AN
LONG, R S	6601 ROCKHILL ROAD KANSAS CITY, MO 64131 816-361-7333	FP
LOPEZ-PLATA, ROBERTO	751 E. 63RD ST. SUITE 378 KANSAS CITY, MO 64110 816-333-6750	GS
LORD, JAMES L	1515 W TRUMAN ROAD SUITE 504 INDEPENDENCE, MO 64050 816-254-6666	FP
LOREN, MICHAEL L	1515 W. TRUMAN RD. INDEPENDENCE, MO 64050 913-341-6894	PDA
LORENZO, EDILBERTO B	1820 W 91ST PLACE KANSAS CITY, MO 64114 816-361-7476	CHP
LORENZO-MEDINA, REMEDIOS	509 W 119TH TERR KANSAS CITY, MO 64145 816-942-7921	IM
LOTUACO, GAMALIEL G	621 W. 50TH ST. KANSAS CITY, MO 64112	PS
LOUTZENHISER, JAMES K	1010 CARONDELET DR. SUITE 424 KANSAS CITY, MO 64114 816-942-8445	P
LUETJE, CHARLES M	105 PENN PARK 2928 MAIN KANSAS CITY, MO 64108 816-561-4423	OTO
LYDDON, HAROLD R	1221 W. 67TH ST. KANSAS CITY, MO 64113 813-444-0274	FP
MABEN, SAM E	9406 E 63RD KANSAS CITY, MO 64133 816-356-1060	IM
MAC DONALD, ROBIN R	352 ROCKHILL MED. BLDG. 6700 TROOST KANSAS CITY, MO 64131 816-363-5606	DR
MAC GEE, EDWIN E	4440 BROADWAY KANSAS CITY, MO 64111 816-561-4655	NS
MAC INNIS, FLORENCE E	OUR LADY OF MERCY 918 E. 9TH ST. KANSAS CITY, MO 64106 816-842-6518	PUD
MAC NAUGHTON, RALPH E	CARONDELET RADIOLOGY IN 1010 CARONDELET DR R KANSAS CITY, MO 64114 816-942-6900	DR
MAC NAUGHTON, ROBT A	CARONDELET RADIOLOGY IN 1010 CARONDELET DR R KANSAS CITY, MO 64114 816-942-6900	R
MAHMOUD, SAID F	12701 EATON CIRCLE SHAWNEE MISSION, KS 66209 913-648-0248	PUD
MAIS, THOMAS E	12864 SAGAMORE RD. SHAWNEE MISSION, KS 66209 913-341-2791	R
MALLOUK, ALEXANDER G	4320 WORNALL RD STE 514 KANSAS CITY, MO 64111 816-931-6712	IM

MALLOW, JAMES E AN
2401 WEST 93RD ST.
SHAWNEE MISSION, KS 66206
913-381-1235

MANGUM, WILLIAM B DTO
434 BLUE RIDGE TOWER
4240 BLUE RIDGE BLVD
KANSAS CITY, MD 64133
816-358-7177

MANION, THOS S U
1515 TRUMAN RD
INDEPENDENCE, MO 64050
816-252-1900

MANUEL, LOUIS C OPH
1734 E 63RD ST
KANSAS CITY, MO 64110
816-363-4700

MARKS, MARK M CRS
6537 SUMMIT ST
KANSAS CITY, MO 64113
816-523-6699

MARSH, ALICE PD
PLEASANT HILL, MO 64080

MARSHALL, CAMERON F OBG
C/O CAROL MARSHALL
1107 TOPEKA ST.
EMPORIA, KS 66801

MARSHALL, HAL E PTH
4949 ROCKHILL RD
KANSAS CITY, MO 64110
816-276-8262

MARTIN, CATALINO V AN
101 MEMORIAL DR
ST MARYS HOSPITAL
KANSAS CITY, MO 64108
816-753-5700

MARTIN, CLYDE V P
SUITE 100-1820 W 91ST PLACE
KANSAS CITY, MO 64114
816-941-0099

MARTIN, MARK W FP
225 W. DOUGLAS
LEE'S SUMMIT, MO 64063
816-524-2626

MASON, WAYNE E R
6700 TROOST STE 352
KANSAS CITY, MO 64131
816-363-5606

MASSARAT, PARVIZ R
TRUMAN MED CTR DEPT OF RAD.
2301 HOLMES ST.
KANSAS CITY, MD 64108
816-556-3273

MASUCCI, JOS M FP
600 ARGYLE BLDG
306 EAST 12 ST
KANSAS CITY, MO 64106
816-221-8848

MATOVICH, VIOLET B N
UNIV. OF MD. K. C.
2411 HDLMES
KANSAS CITY, MO 64108
816-474-4100

MATTA, CAMILLE S OPH
4240 BLUE RIDGE BLVD
KANSAS CITY, MO 64133
816-358-3600

MAYER, JOHN H TS
503 PLAZA PKWY BLDG
4620 J C NICHOLS PKW
KANSAS CITY, MO 64112
816-561-6510

MC BRIDE, NANCY M OBG
4400 BROADWAY
SUITE 302
KANSAS CITY, MD 64111
816-753-2223

MC CALLISTER, BEN D CD
4320 WORNALL RD
KANSAS CITY, MO 64111
816-931-1884

MC CANSE, ANDREW GS
GMAD-6817 STADIUM DR.
KANSAS CITY, MO 64129
816-753-0718

MC CLANAHAN, RDBT C IM
310 W 49TH ST. APT 502
KANSAS CITY, MO 64112
816-471-2892

MC CONAHAY, DAVID R CD
4320 WORNALL ROAD
KANSAS CITY, MO 64111
816-931-1883

MC CONCHIE, JAMES E R
1515 TRUMAN RD.
INDEPENDENCE, MO 64050
816-252-8800

MC CORMACK, ROBERT E IM
9150 E. 41ST TERR
KANSAS CITY, MO 64133
816-356-5000

MC COY, FREDERICK J PS
4177 BROADWAY
KANSAS CITY, MO 64111
816-561-1414

MC CRAY, GLEN M CHP
24TH & GILLHAM RDS
KANSAS CITY, MO 64108
816-234-3213

MC CROSKEY, LON C GS
ROOM T503 RESEARCH TOWERS BL
RESEARCH MED CTR
KANSAS CITY, MD 64132
816-361-3988

MC DONALD, HERBERT L TS
1010 CARONDELET DR.
SUITE 301
KANSAS CITY, MO 64114
816-942-0007

MC DONNELL, JOHN F IM
4320 WORNALL RD
KANSAS CITY, MO 64111
816-753-3243

MC ELROY, CARLA N EM
ST MARYS HOSPITAL EMERG
DEPT - 101 MEMDRIAL
KANSAS CITY, MO 64108
816-753-5700

MC FARLAND, H R N
4320 WORNALL
KANSAS CITY, MO 64111

MC FARLAND, M D IM
4320 WORNALL RD
KANSAS CITY, MO 64111
816-561-1533

MC GANNDN, PAUL T GS
6420 PROSPECT
SUITE T203
KANSAS CITY, MO 64132
816-333-0114

MC GUEGLE, DANIEL E DBG
TRUMAN MEDICAL CENTER EAST
ROUTE 17
KANSAS CITY, MO 64139
816-873-4415

MC GUIRE, THOS H OBG
SUITE T-307
6420 PROSPECT
KANSAS CITY, MO 64132
816-361-7807

MC INTOSH, DONALD E AN
6400 PROSPECT
KANSAS CITY, MO 64132
816-444-1139

MC INTOSH, MICHELE C PD
11200 WINNE RD
INDEPENDENCE, MO 64052
816-836-4300

MC INTYRE, JOHN D AN
4948 WESTWOOD RD
KANSAS CITY, MO 64112
816-753-2185

MC KEE, FRANK E OPH
11201 COLORADO
KANSAS CITY, MO 64137
816-761-6722

MC KEE, WALLACE P IM
4320 WORNALL RD
KANSAS CITY, MO 64111
816-931-1166

MC KEEL, THOS B IM
615 HIGHLAND PROF
6724 TROOST
KANSAS CITY, MD 64131
816-444-9348

MC KNELLY, WM V P
39TH & RAINBOW BLVD
KANSAS CITY, KS 66103
816-588-6493

MC LAUGHLIN, DURNELL OPH
1734 EAST 63RD ST
SUITE 502
KANSAS CITY, MO 64110
816-361-1515

MC LEMORE, WILLIE O IM
UMKC SCHOOL OF MEDICINE
2411 HOLMES
KANSAS CITY, MO 64108
816-474-4100

MC NABNEY, W K TRS
TRUMAN MEDICAL CTR
2301 HOLMES
KANSAS CITY, MO 64108
816-556-3127

MC NUTT, THEODORE L GP
6901 W. 101 ST.
SHAWNEE MISSION, KS 66212
913-649-6627

MC SHANE, MAUREEN IM
APT 31 4620 SUMMIT
KANSAS CITY, MO 64112
816-531-4559

MEDLEY, BENJAMIN E DR
1010 CARONDELET DR
SUITE 114
KANSAS CITY, MO 64114
816-942-6900

MEDLICOTT, WILLIAM J ORS
4320 WORNALL RD
KANSAS CITY, MO 64111
816-753-5102

MEEGAN, ROBT J R
340 PENN PARK MED. CTR.
2928 BALTIMORE
KANSAS CITY, MO 64108
816-756-1050

MEHTA, SATISH K IM
751 E. 63RD ST.
SUITE 378
KANSAS CITY, MO 64110
816-333-6750

MEIKLEJDHN, DUNCAN C OBG
17500 MED CTR PARKWAY STE 3
INDEPENDENCE, MO 64057
816-478-0220

MELE, PAUL F EM
5613 N. POTTER
KANSAS CITY, MO 64119
816-531-4559

MELGAARD, SVEN R AN
12887 CAMBRIDGE CIRCLE
LEAWOOD, KS 66209
913-642-0545

MELIA, B J JR D
216 CARDNDELET MEDICAL BLDG.
1010 CARONDELET DR.
KANSAS CITY, MO 64114
816-942-4336

MENDOZA, MARLENE A P
WESTERN MD MENTAL HEALTH CTR
600 E. 22ND ST.
KANSAS CITY, MO 64108
816-471-3000

MENENDEZ, JOSE O P
P. O. BDX 748
INDEPENDENCE, MO 64052
816-254-3652

MERVEILLE, OCTAVE C PD
24TH AND GILLHAM RD
KANSAS CITY, MO 64108
816-234-3676

MESTED, PETER H AN
ANESTHESIA ASSDCIATES
6400 PROSPECT SUITE 142
KANSAS CITY, MO 64132
444-1139

METZL, KURT PD
601 E 63RD
KANSAS CITY, MO 64110
816-363-6118

MEYER, PAUL W ORS
610 MEDICAL PLAZA
4320 WORNALL RD.
KANSAS CITY, MO 64111
816-531-5757

MEYER, ROBERT D IM
1512 MAIN
GRANDVIEW, MO 64030
816-765-8900

MICHELSON, RICHARD B GPM
P.O.BOX 169
3637 BRDADWAY
KANSAS CITY, MO 64141
816-932-5359

MILES, GEO O GS
9020 MISSIDN RD.
SHAWNEE MISSION, KS 66206
913-341-6138

MILGRAM, BYRON A P
6724 TRODST
KANSAS CITY, MD 64131
816-444-5161

MILLER, CLINT L OM
211 OXFORD
LEE'S SUMMIT, MD 64063
816-524-3520

MILLER, GERALD L JR OBG
RESEARCH OFF TOWERS BLDG
T301, 6420 PROSPECT
KANSAS CITY, MO 64132
816-444-6888

MILLER, MICHAEL R IM
WAYNE MINER HEALTH CENTER
825 EUCLID AVE.
KANSAS CITY, MO 64124
816-474-4920

MILLER, WILSON H IM
6420 PRDSPECT AVE.
SUITE T-305
KANSAS CITY, MO 64132
816-444-4114

MINNIGERDDE, LANA K PM
REHABILITATION INST.
3011 BALTIMORE
KANSAS CITY, MO 64108
816-756-2250

MINNIGERODE, TURNER L IM
RESEARCH HOSP. & MED. CTR.
2316 E. MEYER BLVD.
KANSAS CITY, MO 64132
816-276-4167

MIR, ABDUL R IM
1734 E 63RD ST
KANSAS CITY, MO 64110
816-444-2098

MITCHELL, ANDREW D U
4320 WORNALL RD
KANSAS CITY, MO 64111
816-753-2033

MITCHELL, JOHN D U
2900 BALTIMORE SUITE 540
KANSAS CITY, MO 64108
816-561-7414

MITCHELL, ROBT H OBG
410 BRYANT BLDG
1102 GRAND AVE
KANSAS CITY, MO 64106
816-471-1330
MITRA, NIRMAL K PO
11201 COLORADO
KANSAS CITY, MO 64137
816-761-0775
MIXSON, WM C OBG
12871 CAMBRIDGE TERR
LEAWOOD, KS 66209
MOLOS, MARK A IM
15 E. 108TH TERR.
KANSAS CITY, MO 64114
816-942-1812
MONGAN, JAMES J GP
2220 HOLMES RD.
KANSAS CITY, MO 64108
816-421-6103
MONTELLO, SAMUEL A OBG
SUITE T-307
6420 PROSPECT
KANSAS CITY, MO 64132
816-361-4747
MONTGOMERY, MICHAEL A CO
2929 BALTIMORE, SUITE 415
KANSAS CITY, MO 64108
816-756-0695
MOOK, DAVID G IM
1512 MAIN ST.
GRANDVIEW, MO 64030
816-765-8900
MOONEY, JUSTIN L O
6740 W 52ND PL
SHAWNEE MISSION, KS 66202
913-362-5888
MOONEY, PATRICIA A OBG
2014 SWIFT
KANSAS CITY, MO 64116
816-421-3115
MOORE, DAVID L GS
4400 BROADWAY
KANSAS CITY, MO 64111
816-753-4404
MOORE, JACK O U
4320 WORNALL RD
KANSAS CITY, MO 64111
816-753-2033
MOORE, JOHN M IM
SUITE 238
6400 PROSPECT
KANSAS CITY, MO 64132
816-531-8684
MORANTZ, ROBERT A N
400 ROCKHILL MEDICAL BLDG.
6700 TROOST
KANSAS CITY, MO 64131
816-363-2500
MOREANO, ARMANDO H GP
2929 BALTIMORE
310 PENN PARK MED BLDG.
KANSAS CITY, MO 64108
816-531-3530
MOREST, F S IM
12818 B COPPER CLIFF AVE.
AUSTIN, TX 78758
MORGAN, DAVID B O
4620 J C NICHOLS PKWY
KANSAS CITY, MO 64112
816-561-2200
MORGAN, WM R PS
CARONDELET MEDICAL BLDG
1010 CARONDELET DR-S
KANSAS CITY, MO 64114
816-942-5900
MORRIS, J H IM
4240 BLUE RIDGE BLVD
KANSAS CITY, MO 64133
816-356-8877
MORRIS, TERRY V OBG
1515 W. TRUMAN RD.
INDEPENDENCE, MO 64050
816-836-4200
MORRISON, DONALD H AN
4545 WORNALL RD
KANSAS CITY, MO 64111
816-932-2033
MORRISON, J S P
4320 WORNALL RD.
SUITE 118
KANSAS CITY, MO 64111
MORRISON, RICHARD A TR
17525 MEDICAL CENTER PARK
INDEPENDENCE, MO 64057
816-373-2700
MOSBACHER, HUGH E PS
109 IRONBARK LAKEWOOD
LEE'S SUMMIT, MO 64063
816-373-7493
MOSS, PAUL GE
4706 BROADWAY
KANSAS CITY, MO 64112
816-531-8733
MUELLER, MARTIN J IM
6420 PROSPECT AVE.
SUITE T101
KANSAS CITY, MO 64132
816-363-4100
MUENCH, LAURENCE W AN
8010 SAGAMORE
SHAWNEE MISSION, KS 66206
913-649-3541
MULLEN, LEO M GP
4443 PASEO BLVD
KANSAS CITY, MO 64110
816-921-5411
MUNYAN, EARL A IM
17221 E. 23RD ST.
SUITE 113
INDEPENDENCE, MO 64057
816-373-1122
MURPHY, EVERETT M III PUD
545 PENN PARK
2929 BALTIMORE
KANSAS CITY, MO 64108
816-561-6277
MURPHY, ROBT J O
6428 HIGH DR.
SHAWNEE MISSION, KS 66208
913-362-7305
MUTCHNICK, NORMAN GS
6724 TROOST
SUITE 910
KANSAS CITY, MO 64131
816-333-2000
MUTHER, RICHARD S IM
500 ROCKHILL MED. BLDG.
6700 TROOST
KANSAS CITY, MO 64131
816-361-0670
MYERS, GEO H U
1010 CARONDELET DR
KANSAS CITY, MO 64114
816-942-4243
MYERS, JOHN S OM
425 HUNTINGTON RD
KANSAS CITY, MO 64113
816-444-4334
MYERS, ROBT M FP
2310 STONE BLVD.
RAYMORE, MO 64083
816-322-0233
MYRON, MARK C IM
1016 W. 69TH TERR.
KANSAS CITY, MO 64113
816-361-5208
NAIME, MANSOUR J PO
136 ROCKHILL MED BLDG
6700 TROOST
KANSAS CITY, MO 64131
816-363-3337
NELSON, BENTLEY A OTO
1010 CARONDELET DR.
SUITE 224
KANSAS CITY, MO 64114
816-942-7200
NESSELRODE, JOHN H GS
1515 W TRUMAN RD
STE 402
INDEPENDENCE, MO 64050
816-254-9292
NEWMAN, ROBT L OBG
ST LUKES HOSP
44TH & WORNALL RD
KANSAS CITY, MO 64111
816-932-2047
NICHOLAS, THOMAS A FP
DEPT. OF FAMILY PRACTICE
LITTLE BLUE-LEES SUMMIT
KANSAS CITY, MO 64139
816-373-4415
NICHOLIS, GEORGE R PO
373 W. 101ST TERR.
KANSAS CITY, MO 64114
816-942-8200
NICKELL, BARRY L IM
132 MEDICAL PLAZA
4320 WORNALL RD.
KANSAS CITY, MO 64111
816-561-1533
NICKELL, MARGARET B OBG
4320 WORNALL RD. SUITE 520
KANSAS CITY, MO 64111
816-531-9400
NIELSON, MICHAEL H OBG
1612 W. TRUMAN RD.
INDEPENDENCE, MO 64050
816-836-4200
NIGRO, EDWARD R CO
1340 S OCN BLV #2209
POMPANO BEACH, FL 33062
NIGRO, JOS A GS
5715 WINDSOR DR
SHAWNEE MISSION, KS 66205
913-831-4079
NIGRO, THOMAS L GS
TRUMAN MEDICAL CENTER
2301 HOLMES
KANSAS CITY, MO 64108
816-556-3505
NOBACK, RICHARDSON K IM
UMKC SCHOOL OF MED
2411 HOLMES
KANSAS CITY, MO 64108
816-474-4100
NOLTENSMEYER, MILTON H AN
3305 W 50TH TERR
SHAWNEE MISSION, KS 66205
913-236-6973
NORRIS, JACKIE R IM
5303 PERSIMMON TRAIL #14
KANSAS CITY, MO 64129
816-531-4559
O'FARRELL, THOS P GS
SUITE 503
6420 PROSPECT
KANSAS CITY, MO 64132
816-361-3988
O'HEARNE, JOHN J P
4706 BROADWAY
KANSAS CITY, MO 64112
816-531-7020
O'KELL, RICHARD T PTH
ST LUKES HOSP DEPT PATH
44TH & WORNALL RD
KANSAS CITY, MO 64111
816-932-2411
O'MALLEY, JAMES F U
6700 TROOST
SUITE 408
KANSAS CITY, MO 64131
816-333-9939
O'NEIL, JAMES H GS
275 TAIT TERRACE SE
PORT CHARLOTTE, FL 33952
OLSON, LLOYD C PO
24TH AND GILLHAM RD
CHILDRENS MERCY HOSP
KANSAS CITY, MO 64108
816-234-3370
ORGAN, ALAN E PO
601 E. 63RD ST.
SUITE 311
KANSAS CITY, MO 64110
816-333-8666
OSBORNE, JERE O OM
1010 OZARK NATL. LIFE BLDG.
906 GRAND
KANSAS CITY, MO 64106
816-842-4751
OST, MARK O PTH
6550 B TROOST
KANSAS CITY, MO 64131
816-333-7888
OSTERGAARD, DANIEL J FP
1740 W. 92ND ST.
KANSAS CITY, MO 64114
816-333-9700
OTRAKJI, JEAN NEP
1734 E 63RD ST.
KANSAS CITY, MO 64110
816-444-2098
OVERESCH, HARRY B ORS
6400 PROSPECT AVE
KANSAS CITY, MO 64132
816-363-2202
OWENS, JAMES L OBG
302 BROADWAY MED. BLDG
4400 BROADWAY
KANSAS CITY, MO 64111
816-753-2223
OWENS, ROBT H U
6700 TROOST 408
KANSAS CITY, MO 64131
816-333-9939
OXLEY, DWIGHT K CLP
1010 W. CARONDELET SUITE 126
KANSAS CITY, MO 64114
816-942-8100
OZAR, MILTON B U
1206 W 62ND
KANSAS CITY, MO 64113
816-444-3585
PACK, GARY L N
415 E 63RD ST.
SUITE 107
KANSAS CITY, MO 64110
816-756-2314
PADRON, ANNE A IM
9316 BALES #302
KANSAS CITY, MO 64132
816-531-4559
PADULA, RICHARD T TS
SUITE T211 RESEARCH MED. OFF
6420 PROSPECT AVE.
KANSAS CITY, MO 64132
816-523-8120
PAKULA, SIDNEY F PO
P O BOX 8552
10839 STATE LINE RD
KANSAS CITY, MO 64114
816-942-4589
PALAZOLA, JOSEPH M IM
4320 WORNALL
SUITE 440
KANSAS CITY, MO 64111
816-753-3243
PALMER, PATRICK M ORS
PO/ORTH/SURG CHILDRENS MERCY
24TH & GILLHAM
KANSAS CITY, MO 64108
816-234-3693
PANEK, JUDY L IM
9807 EASTERN
KANSAS CITY, MO 64134
PAONE, DOUGLAS B IM
6420 PROSPECT
SUITE T101
KANSAS CITY, MO 64132
816-363-4100

PARDAOELO, JORGE C TR
6420 PROSPECT SUITE T513
KANSAS CITY, MO 64132
816-363-2677
PARDO, LILLIAN G PO
4440 BROAOWAY
KANSAS CITY, MO 64111
816-561-4655
PARDO, MANUEL P P
17221 E. 23RO ST.
SUITE 109
INOEPENOENCE, MO 64057
816-373-1911
PAREKH, MAOHAVI A PTH
UNIV. HEALTH SCIENCES
2105 INOEPENOENCE BLVO
KANSAS CITY, MO 64124
816-283-2000
PARELMAN, ALLEN G OPH
6724 TROOST AVE #303
KANSAS CITY, MO 64131
816-523-9066
PARKER, CRAIG A AN
142 RESEARCH MEO. OFF. BLOG.
6400 PROSPECT
KANSAS CITY, MO 64132
816-444-1139
PARKER, HUBERT M CO
2929 BALTIMORE SUITE 43
KANSAS CITY, MO 64108
816-931-3124
PARKER, KIM E AN
SUITE 142 6400 PROSPECT
KANSAS CITY, MO 64132
816-444-1139
PARKINS, GEORGE K ORS
500 PENN PARK
2929 BALTIMORE
KANSAS CITY, MO 64108
816-561-5003
PARSONS, EUGENE O GS
145 STATE LINE KENNETH
STANLEY, KS 66223
913-681-2376
PATTISON, CHARLES P P
540 PENN PARK
2929 BALTIMORE
KANSAS CITY, MO 64108
816-781-1100
PAWSAT, JOHN E ORS
1210 W 58TH ST
KANSAS CITY, MO 64113
816-333-6599
PECORARO, ANTHONY P PO
4400 BROAOWAY
KANSAS CITY, MO 64111
816-561-8100
PEETE, DON C CO
9012 WEST 102NO ST.
SHAWNEE MISSION, KS 66212
913-341-1158
PEMBERTON, LOARN B GS
TRUMAN MEOICAL CENTER
2301 HOLMES
KANSAS CITY, MO 64108
816-556-3505
PENOELL, PAUL W GS
400 N MURRAY RO.
LEE'S SUMMIT, MO 64063
816-524-8400
PENOERGRASS, KELLY B ON
6420 PROSPECT
SUITE T101
KANSAS CITY, MO 64132
816-363-4100
PENNER, STANLEY PO
1010 CARONOELET OR.
KANSAS CITY, MO 64114
816-941-0808
PERLL, MAURICE F ORS
1010 CARONOELET OR. #426
KANSAS CITY, MO 64114
816-941-0200
PERLL, RITA O CHP
600 E 22NO STREET
KANSAS CITY, MO 64108
816-471-3000
PETERSEN, EUGENE G R
108 HACKBERRY
LEE'S SUMMIT, MO 64063
816-373-1253
PETERSON, BONITA J PTH
4550 WARWICK BLVO APT 2
KANSAS CITY, MO 64111
816-561-6013
PETERSON, CARL M GS
2701 E 31ST ST
KANSAS CITY, MO 64128
816-861-2300
PETERSON, JAY T HEM
4320 WORNALL RO
SUITE 212
KANSAS CITY, MO 64111
816-531-0930
PETERSON, WALTER R GS
2701 E 31ST ST
KANSAS CITY, MO 64128
816-861-2300
PFEFFER-HURWITZ, JUOITH CHP
SUITE 202 4400 BROAOWAY
KANSAS CITY, MO 64111
913-649-6854
PHILLIPS, THOMAS P ORS
610 MEOICAL PLAZA
4320 WORNALL RO.
KANSAS CITY, MO 64111
816-531-5757
PICKARO, NICHOLAS S ORS
6210 HIGH OR
SHAWNEE MISSION, KS 66208
913-362-7021
PICKERING, LEE I IM
1515 W TRUMAN ROAO
INOEPENOENCE, MO 64050
816-836-8130
PIEBENGA, LARRY W OPH
4400 BROAOWAY
KANSAS CITY, MO 64111
816-561-1136
PIEPERGEROES, LARRY G OPH
4240 BLUE RIOGE BLVO
KANSAS CITY, MO 64133
816-737-1010
PINKERTON, JOSEPH A JR TS
308 MEOICAL PLAZA
4320 WORNALL RO.
KANSAS CITY, MO 64111
816-753-7460
PINSKER, OSCAR T OTO
HIGHLANOS PROF TOWER
6724 TROOST
KANSAS CITY, MO 64131
816-333-6996
PIPER, OONALO K ORS
1010 CARONOELET OR. #426
KANSAS CITY, MO 64114
816-941-0200
PITIYANUVATH, TASANAPORN PO
6306 MORINGSIOE OR.
KANSAS CITY, MO 64113
816-474-4920
PLACE, KENNETH C OPH
130 PENN PARK
2928 MAIN
KANSAS CITY, MO 64108
816-756-1236
PLAPP, FREOERICK V CLP
COMMUNITY BLOOO CTR
4040 MAIN ST.
KANSAS CITY, MO 64111
314-753-4040
POGSON, GEORGE W III IM
1515 TRUMAN RO. SUITE 408
INOEPENOENCE, MO 64050
314-461-6837
POLITI, GREGORY B AN
3621 WYNCOTE LANE
SHAWNEE MISSION, KS 66205
913-384-1507
POONAWALA, HUSENI E CHP
3001 W. 121ST ST.
LEAWOOO, KS 66209
PORTER, LOUIS AN
12 OOCTORS BLOG. EAST
751 E. 63RO ST.
KANSAS CITY, MO 64110
816-333-7484
PORTER, MICHAEL J AN
6925 BELINOER
SHAWNEE MISSION, KS 66208
913-384-3688
PORTER, WALTER N P
12745 W. 76TH ST.
LENEXA, KS 66216
913-362-6177
POSTMA, GEORGE S IM
6700 TROOST AVE. SUITE 604
KANSAS CITY, MO 64131
816-356-5000
POTTER, CYNTHIA J IM
4226 HARRISON
KANSAS CITY, MO 64110
816-756-0372
POTTS, OONALO A FP
1515 W TRUMAN RO NO 504
INOEPENOENCE, MO 64050
816-254-6666
POWELL, ALAN E PO
17500 MEOICAL CENTER PKWY
SUITE 5
INOEPENOENCE, MO 64057
816-373-1111
PRATT, CRAIG T IM
305 COUNTRY LANE
LEE'S SUMMIT, MO 64063
PRICE, PATRICK K OPH
17421 MEO CTR PARKWAY
INOPENOENCE, MO 64057
816-373-5711
PRINTZ, JOS H GS
820 W. 64TH TERRACE
KANSAS CITY, MO 64113
816-333-5005
PRO, JOHN O P
4320 WORNALL RO.
SUITE 712
KANSAS CITY, MO 64111
816-561-2524
PROSTIC, EOWARO J ORS
6724 TROOST SUITE 800
KANSAS CITY, MO 64131
816-333-1700
PRYOR, HAROLO J PM
RESEARCH HOSPITAL
MEYER ANO PROSPECT
KANSAS CITY, MO 64132
816-276-4365
PUGH, RICHARO G PO
1612 W TRUMAN RO
INOEPENOENCE, MO 64050
816-252-9922
QUER, ERICH A GS
1802 REGENCY HOUSE
221 W. 48TH ST.
KANSAS CITY, MO 64112
816-756-0021
QUIASON, ARTURO G P
SUITE 109
17221 E. 23RO ST.
INOEPENOENCE, MO 64057
816-373-1911
QUIASON, EMMELINE P CHP
109 MEO. PLAZA BLOG.
17221 E. 23RO ST.
INOEPENOENCE, MO 64057
816-373-1911
RACELA, ANTONIO S PTH
912 BURNING TREE
KANSAS CITY, MO 64145
RAOER, ADA E GP
13414 LOCUST ST
KANSAS CITY, MO 64145
816-942-0732
RAICH, ROBT A IM
4320 WORNALL RO RM 440
KANSAS CITY, MO 64111
816-753-3243
RAMEY, EHRET O OBG
4320 WORNALL AVE
KANSAS CITY, MO 64111
816-561-0056
RAMIREZ, RAY E IM
7721 BENSON ST.,
SHAWNEE MISSION, KS 66204
816-531-4559
RAMOS, AMERICO G TS
348 ROCKHILL MEO BLDG
6700 TROOST
KANSAS CITY, MO 64131
816-333-9332
RATNAM, OASARI V P
6448 VERONA RO.,
SHAWNEE MISSION, KS 66208
913-262-3489
RAYBOULO, MICHAEL W IM
4000 N. GRANO
KANSAS CITY, MO 64116
816-452-6927
RAYFORO, CLEVELANO E IM
10518 E 40TH TERR
RAYTOWN, MO 64133
RECTOR, JOE L TR
710 MEOICAL PLASA
4320 WORNALL RO.
KANSAS CITY, MO 64111
816-531-9481
REOOIN, JACK L IM
17221 E 23RO ST STE 209
INOEPENOENCE, MO 64057
816-373-1188
REOOY, SARVOTHAM K GS
6225 RAYTOWN TRWY 81-2607
KANSAS CITY, MO 64133
816-353-7744
REECE-RYSER, CAROL A PO
7447 HOLMES
KANAS CITY, MO 64131
816-363-3313
REEO, WM A TS
4320 WORNALL RO
KANSAS CITY, MO 64111
816-931-7743
REINHAROT, G R GS
228 RESEARCH MEO OFF BL
6400 PROSPECT
KANSAS CITY, MO 64132
816-333-8361
REISS, JEANNE E N
STE 400 HIGHLANOS PROF TOWER
6724 TROOST
KANSAS CITY, MO 64131
816-444-4082
REISTER, DOROTHY O PO
5201 W 84TH
SHAWNEE MISSION, KS 66207
913-649-3429
REISTER, PHILIP O GS
SUITE 705
6724 TROOST
KANSAS CITY, MO 64131
816-523-2119
REISZ, GEORGE R IM
3320 GILLHAM RO.
KANSAS CITY, MO 64109
REMKUS, JAMES E IM
LIMEWOOO AVE. B10
BRANDORO, CT 06405
913-492-6200

RENGACHARY, DHANALAKSHMI OBG
210 SPRUCE
LEE'S SUMMIT, MO 64063
816-373-1597
RENNER, JOHN H FP
ST. MARY'S HOSPITAL
101 MEMORIAL DR.
KANSAS CITY, MO 64108
816-753-5700
REYNOLDS, CLARENCE C IM
1734 E 63RD ST
SUITE 605
KANSAS CITY, MO 64110
816-361-1770
REYNOLDS, JAMES O GE
4320 WORNALL RD
KANSAS CITY, MO 64111
816-531-0552
RHODES, ANDREW J NS
SUITE 503
1515 W TRUMAN RD
INDEPENDENCE, MO 64050
816-252-6961
RICCI, WALTER F P
6724 TROOST
KANSAS CITY, MO 64131
816-361-0899
RICHARDS, DEAN D III IM
SUITE 500 6700 TROOST
KANSAS CITY, MO 64131
816-361-0660
RICHARDSON, MARION W OBG
2526 PROSPECT
KANSAS CITY, MO 64127
816-923-9600
RICHERT, ROBT C PTH
504 W 96TH ST
KANSAS CITY, MO 64114
816-942-0297
RIEKHOF, PAUL L OBG
SUITE T-307
6420 PROSPECT
KANSAS CITY, MO 64132
816-361-4747
RIGDON, JOHN F A
6700 TROOST AVENUE
SUITE 600
KANSAS CITY, MO 64131
816-532-7777
RIGOLOSI, RONALD A IM
373 W 101ST TERRACE
KANSAS CITY, MO 64114
816-942-8200
RILEY, J P R
PARTHENON, AR 72666
RILLER, LOWELL E ORS
906 BRYANT BLDG.
1102 GRAND
KANSAS CITY, MO 64106
816-471-6165
RIPPEY, JOHN H PTH
WORNALL RD AT 44TH ST
KANSAS CITY, MO 64111
816-932-2500
RITTER, WILLIAM S CO
ST. MARY'S HOSP.
101 MEMORIAL DR.
KANSAS CITY, MO 64108
816-753-0155
ROBB, CHRISTINE A FP
13013 FULLER AVE.
GRANDVIEW, MO 64030
816-761-1660
ROBERTS, CHARLES C PD
CHILDRENS MERCY HOSPITAL
24TH & GILLHAM RD.
KANSAS CITY, MO 64108
816-234-3016
ROBERTS, FRED F PDR
DEPT OF RADIOLOGY
ST JOSEPH HOSP
KANSAS CITY, MO 64114
816-942-6900
ROBERTS, GROSVENOR G OM
777 N BLUE PKWY
LEE'S SUMMIT, MO 64063
816-251-4480
ROBINETT, WADE V OTO
6700 TROOST STE 616
KANSAS CITY, MO 64131
816-444-9408
ROBINSON, ARTHUR W IM
4320 WORNALL RD
KANSAS CITY, MO 64111
816-531-0552
ROBINSON, ERNEST K GS
1015 W 58TH TERR
KANSAS CITY, MO 64113
816-333-0438
ROBINSON, WM J P
9931 LEE CIRCLE
LEAWOOD, KS 66206
913-648-2494
RODGERS, GEO H U
232 RESEARCH MED OFF BL
6400 PROSPECT
KANSAS CITY, MO 64132
816-333-6403

RODGERS, SAML U OBG
2701 E 31ST ST
KANSAS CITY, MO 64128
816-861-2300
ROFAIL, AMIN A AN
9206 ENGLAND
SHAWNEE MISSION, KS 66212
913-341-7091
ROGERS, ROBT L OTO
6724 TROOST AVE STE 200
KANSAS CITY, MO 64131
816-333-6996
*ROMITO, ANTHONY J GP
5529 TROOST
KANSAS CITY, MO 64110
816-444-2233
ROPE, DOUGLAS M IM
373 W. 101ST TERR.
KANSAS CITY, MO 64114
816-942-8200
ROSEN, LARRY A IM
SUITE 500
4240 BLUE RIDGE BLVD.
KANSAS CITY, MO 64133
816-356-8877
ROSENBERG, ISAC PO
1010 CARONDELET DR.
KANSAS CITY, MO 64114
816-942-8644
ROSKA, JOHN M IM
4108 N.E. VIVION
KANSAS CITY, MO 64119
816-454-3636
ROSS, ROBERT M IM
373 W 101ST TERR
KANSAS CITY, MO 64114
816-942-8200
ROTH, ALFRED D AN
600 ROCKHILL MED. BLDG.
6700 TROOST
KANSAS CITY, MO 64131
816-523-7777
ROWE, VERNON D III N
4320 WORNALL RD. SUITE 420
KANSAS CITY, MO 64111
816-753-8800
ROZEN, JAY I R
6420 PROSPECT
SUITE T209
KANSAS CITY, MO 64132
816-523-2400
RUBIN, HARVEY P CD
404 HIGHLANDS PROF TOWER
6724 TROOST
KANSAS CITY, MO 64131
816-363-8775
RUBNITZ, LEON H AN
751 E 63RD STE 12
KANSAS CITY, MO 64110
816-333-7484
RUES, LAWRENCE A FP
GOPPER FAMILY CARE CENT
6601 ROCKHILL RD
KANSAS CITY, MO 64131
816-361-7333
RUFE, JOHN R OPH
102 BROADWAY MED. BLDG.
4400 BROADWAY
KANSAS CITY, MO 64111
816-561-1136
RUSSELL, JAMES L TS
330 PENN PARK BLDG
2929 BALTIMORE
KANSAS CITY, MO 64108
816-531-0118
RUSSELL, ROBT K FP
8933 ROSE LANE
KANSAS CITY, MO 64133
816-353-0036
RUSSELL, STEVEN L IM
7937 NE 53RD TERR.
KANSAS CITY, MO 64119
816-455-0394
RUTHERFORD, BARRY O IM
MEDICAL PLAZA II #20
4320 WORNAL RD.
KANSAS CITY, MO 64111
816-931-1883
RYMER, MARILYN M N
4320 WORNALL RD. SUITE 220
KANSAS CITY, MO 64111
816-531-4599
SABATES, FELIX N OPH
110 ROCKHILL MED BLDG
6700 TROOST
KANSAS CITY, MO 64131
816-333-7376
SAFERSTEIN, A L AN
8308 SOMERSET
SHAWNEE MISSION, KS 66207
913-381-1441
SAFLEY, THOS J GS
17221 E 23RD ST
INDEPENDENCE, MO 64057
816-373-4646
SALDANA, DAHLIA IM
9103 E 40TH HWY
INDEPENDENCE, MO 64055
816-861-4020

*SALEH, GEORGE A OBG
6908 W 52ND PLACE
MISSION, KS 66202
SAMUELSON, EDWARD A FP
706 W 112TH ST
KANSAS CITY, MO 64114
816-942-3092
SANDERS, DONALD C P
411 NICHOLS RD
KANSAS CITY, MO 64112
816-531-9009
SANDERS, HARMON U OPH
115 HUMPHREY ST
GREENWOOD, MS 38930
601-453-8736
SANDERS, WM F IM
BENDIX CORP.
P.O.BOX 1159
KANSAS CITY, MO 64141
SANDOW, THEODORE L ORS
4320 WORNALL RD
KANSAS CITY, MO 64111
816-753-5102
SANTORO, CARLOS G GS
1103 WESTPORT RD
KANSAS CITY, MO 64111
816-753-1568
SAUER, GORDON C D
6400 PROSPECT
KANSAS CITY, MO 64132
816-444-5601
SCARBOROUGH, BETTY F IM
4223 WEST 69TH TERR.
SHAWNEE MISSION, KS 66208
913-531-4559
SCARBOROUGH, MARK R IM
4223 WEST 69TH TERR.
SHAWNEE MISSION, KS 66208
913-236-5075
SCHAERRER, WM C CRS
4545 WORNALL ROAD
APT. 212
KANSAS CITY, MO 64111
816-531-0945
SCHARF, DANIEL IM
4949 ROCKHILL RD
MENORAH MEDICAL CTR
KANSAS CITY, MO 64110
816-276-8259
SCHERER, STEPHEN IM
KANSAS CITY INTERNAL MED.
STE T-101 6420 PROSPECT
KANSAS CITY, MO 64132
816-363-4100
SCHIFFMACHER, JACK E R
4517 W 65TH ST
PRAIRIE VILLAGE, KS 66208
913-831-1319
SCHILLIE, GENE A OBG
T301 RESEARCH MED. BLDG.
6420 PROSPECT
KANSAS CITY, MO 64132
816-444-6888
SCHLOZMAN, DANL L PUD
SUITE T-303
6420 PROSPECT
KANSAS CITY, MO 64132
816-333-1919
SCHMAUCH, JAY D IM
17894 BUCKINGHAM CT.
INDEPENDENCE, MO 64057
816-257-1794
SCHMIDT, THOMAS L ORS
THE CHILDREN'S MERCY HOSP.
24TH AT GILLHAM RD.
KANSAS CITY, MO 64108
816-234-3693
SCHOOLMAN, ARNOLD NS
400 ROCKHILL MED. BLDG.
6700 TROOST
KANSAS CITY, MO 64131
816-363-2500
SCHOTTMAN, GERHARD W R
710 MEDICAL PLAZA
4320 WORNALL RD.
KANSAS CITY, MO 64111
816-531-9481
SCHUMAN, NORVIN D PTH
MEYER BLVD AT PROSPECT
KANSAS CITY, MO 64132
816-276-4151
SCHUTZ, RICHARD B OBG
JOHN KNOX VILLAGE CARE CTR
ROOM 202 500 N. MURRAY
LEE'S SUMMIT, MO 64063
816-524-7560
SCHWARTZ, HOWARD I OBG
3938 CAMPBELL
KANSAS CITY, MO 64110
816-753-2484
SCHWARTZ, OSCAR A IM
2411 HOLMES
UMKC SCHOOL OF MEDICINE
KANSAS CITY, MO 64108
816-474-4100
SCHWEGLER, ROBERT G DR
10235 CATALINA
SHAWNEE MISSION, KS 66207
913-649-1924

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* Doctor of Osteopathy.

SEELY, CLARK W PD
3000 W 68TH ST
SHAWNEE MISSION, KS 66208
913-362-6450

SEIDEN, GERALD D OTO
5724 TROOST
SUITE 208
KANSAS CITY, MO 64131
816-361-6013

SEITZ, ELSON F PTH
1509 W TRUMAN RD CLINIC
INDEPENDENCE, MO 64050
816-836-8100

SELLS, KENNETH J FP
2900 BALTIMORE STE 400
KANSAS CITY, MO 64108
816-756-1222

SESHUMURTY, PONNURU PD
LITTLE BLUE & LEES SUMMIT RD
TRUMAN MED CTR-EAST
KANSAS CITY, MO 64139
816-234-3000

SESHUMURTY, VIMALA PD
4900 SWOPE PARKWAY
KANSAS CITY, MO 64130
816-823-5800

SHAH, OIPAK C R
TRUMAN MEDICAL CENTER
2301 HOLMES
KANSAS CITY, MO 64108
816-556-3273

SHALET, MALCOLM F IM
6724 TROOST AVE STE 500
KANSAS CITY, MO 64131
816-363-5662

SHALLEY, JACK E P
215 BLUE RIDGE TOWER
4240 BLUE RIDGE BLVD.
KANSAS CITY, MO 64133
816-353-0300

SHAPIRO, LAZARE M IM
P O BOX 1441
SUN CITY, AZ 85351

SHARMA, JANAROANA N IM
208 MEDICAL PLAZA
4320 WORNALL RD
KANSAS CITY, MO 64111
816-531-0552

SHARMA, VIOYA PD
CHILDREN'S MERCY HOSP
24TH & GILLHAM RD
KANSAS CITY, MO 64108
816-234-3684

SHARP, STANLEY P IM
5209 W. 68TH ST.
SHAWNEE MISSION, KS 66208
913-722-4629

SHEAHON, JOHN A OBG
6700 RAYTOWN RD
RAYTOWN, MO 64133
816-358-5300

SHECHTER, NATHAN ORS
800 HIGHLANDS PROF TOWER
6724 TROOST
KANSAS CITY, MO 64131
816-333-1700

SHEEHAN, MICHAEL B PO
628 GREENWAY TER
KANSAS CITY, MO 64113
816-333-9788

SHELDEN, RUSSELL D AN
816 W 58TH TERRACE
KANSAS CITY, MO 64113
816-333-0248

SHERMAN, NEAL J IM
373 W. 101ST TERRACE
KANSAS CITY, MO 64114
816-942-8200

SHEVERINI, MOHAMMAD A TS
4320 WORNALL RD.
SUITE 510
KANSAS CITY, MO 64111
816-931-7743

SHIFRIN, ALEXANDER IM
6700 TROOST AVE
KANSAS CITY, MO 64131
816-444-2100

SHIREMAN, KENNETH L GP
NOLAND RD & 55TH TERRACE
KANSAS CITY, MO 64133

SHOCKLEY, CLARENCE J OBG
615 W 3RD ST
LEE'S SUMMIT, MO 64063
816-524-3799

SHUEY, HERBERT H GP
3 E GREGORY ST
KANSAS CITY, MO 64114
816-363-3011

SIEGEL, CARL O GP
20 E. 14TH ST.
KANSAS CITY, MO 64106
816-842-4850

SIMMONS, DONALD D P
4301 MAIN ST STE 14
KANSAS CITY, MO 64111
816-471-0692

SIMMONS, JOHN L U
6420 PROSPECT AVE.
SUITE T507
KANSAS CITY, MO 64132
816-363-5600

SIMON, SANFORD GS
6724 TROOST STE 410
KANSAS CITY, MO 64131
816-333-9500

SIMONS, STEPHEN PD
601 EAST 63RD. STREET
SUITE 406
KANSAS CITY, MO 64110
816-363-6118

SINCLAIR, RICHARD H OBG
SUITE T-307
6420 PROSPECT
KANSAS CITY, MO 64132
816-361-4747

SINGH, LINDA C IM
WAYNE MINER HEALTH CTR
825 EUCLID
KANSAS CITY, MO 64124
816-474-4920

SINGLETON, CHARLES M IM
4320 WORNALL RD STE 410
KANSAS CITY, MO 64111
816-561-7817

SINGLETON, JOHN M IM
4400 BROADWAY SUITE 310
KANSAS CITY, MO 64111
816-531-0288

SINNETT, MARK F IM
LITTLE BLUE & LEE SUMMIT RD.
TRUMAN MEDICAL CENTER E
KANSAS CITY, MO 64139
816-373-4415

SIRRIDGE, MARJORIE J IM
2411 HOLMES
KANSAS CITY, MO 64108
816-474-4100

SIRRIDGE, WM T IM
TRUMAN MEDICAL CTR
2301 HOLMES
KANSAS CITY, MO 64108
816-556-3517

SISK, CHARLES W RHU
411 NICHOLS RD.
KANSAS CITY, MO 64112
816-531-6191

SKILLMAN, ROBT K IM
4320 WORNALL RD
KANSAS CITY, MO 64111
816-753-4312

SKINNER, JOHN T GP
1238 W. 65TH ST.
KANSAS CITY, MO 64113
816-333-1566

SLANKARO, J E OBG
4320 WORNAL RD
KANSAS CITY, MO 64111
816-753-6010

SLENTZ, EDWIN L IM
4320 WORNALL RD
SUITE 348
KANSAS CITY, MO 64111
816-561-3500

SLENTZ, WM A IM
4320 WORNALL RD
SUITE 348
KANSAS CITY, MO 64111
816-561-3500

SMITH, ARTHUR B R
8409 WENONGA RD
SHAWNEE MISSION, KS 66206
913-648-3754

SMITH, C. BYRON III OPH
SUITE 409
4620 J.C. NICHOLS PKWY
KANSAS CITY, MO 64112
816-753-5599

SMITH, DAVIO LAMBUTH ID
2316 E MEYER BLVD.
KANSAS CITY, MO 64132
816-276-3980

SMITH, ELBERT E PD
4400 BROADWAY
KANSAS CITY, MO 64111
816-561-8100

SMITH, HUBERT E IM
5104 E 24TH ST
KANSAS CITY, MO 64127
816-483-1850

SMITH, IRA T U
6400 PROSPECT ST
KANSAS CITY, MO 64132
816-363-5600

SMITH, JOHN C PTH
2301 HOLMES
KANSAS CITY, MO 64108
816-556-3212

SMITH, KATHERINE W PO
CHILDREN'S MERCY HOSPITAL
24TH AND GILLHAM RD.
KANSAS CITY, MO 64108
816-234-3054

SMITH, OTHELLO D PTH
6550-C TROOST
KANSAS CITY, MO 64131
816-333-7888

SMITH, REID C IM
1-A 6875 W. 51ST TERR.
SHAWNEE MISSION, KS 66202
913-753-3620

SMITH, THOMAS H R
5416 DRUID LANE
DALLAS, TX 75209

SMITH, WALLACE B OPH
3611 SOUTH DELAWARE
INDEPENDENCE, MO 64055

SNEID, DAVID S IM
SUITE 550
2900 BALTIMORE
KANSAS CITY, MO 64108
816-756-1234

SNIDER, WILBUR R GS
TRUMAN MEDICAL CTR
2301 HOLMES
KANSAS CITY, MO 64108
816-556-3505

SOPER, MICHAEL R IM
6801 E. 117TH ST.
KANSAS CITY, MO 64134
816-341-9879

SPAFFORD, ALLEN L IM
5551 BELINDER RD
SHAWNEE MISSION, KS 66205
913-236-5463

SPAKE, ROBERT V OTO
4400 BROADWAY SUITE 409
KANAS CITY, MO 64111
816-531-4777

SPALOING, WILBER B OPH
2928 MAIN ST
KANSAS CITY, MO 64108
816-756-1236

SPARKS, OANNY C PO
PRIME HEALTH STADIUM CLINIC
9150 E. 41ST. TERRACE
KANSAS CITY, MO 64133
816-356-5000

SPAULDING, KENNETH A GS
2701 E 31ST ST.
KANSAS CITY, MO 64128
816-861-2300

SPECKMAN, JERRY M OR
6420 PROSPECT SUITE T209
KANSAS CITY, MO 64132
816-523-2400

SPENCER, DONALO M ORS
4240 BLUE RIDGE BLVD
KANSAS CITY, MO 64133
816-356-3100

SPIES, BARBARA J GP
P. O. BOX 338
LOUISBURG, KS 66053
913-837-2911

SPURNEY, JOE E FP
11201 COLORADO
KANSAS CITY, MO 64137
816-763-5200

SPURNY, OTTO M CO
6724 TROOST, SUITE 500
KANSAS CITY, MO 64131
816-363-5662

STAAB, GERALO E R
6700 TROOST
KANSAS CITY, MO 64131
816-363-5606

STACEY, WALLACE R OBG
17500 MED CTR PKY SUITE 3
INDEPENDENCE, MO 64057
816-478-0220

STAGGS, WM A U
2929 BALTIMORE AVE STE
KANSAS CITY, MO 64108
816-561-6365

STANFORD, CAROL A IM
5617 ABERDEEN
SHAWNEE MISSION, KS 66205
913-262-3214

STANFORD, JAMES F IM
5617 ABERDEEN
SHAWNEE MISSION, KS 66205
913-931-6250

STANLEY, JOHN H CHP
4400 BROADWAY
KANSAS CITY, MO 64111
816-561-2025

STARKS, GREGORY C OBG
PHYSICIANS REFERRAL CENTER
2301 HOLMES
KANSAS CITY, MO 64108
816-556-3529

STATLANO, HARRY IM
STATLAND CLINIC
6724 TROOST-SUITE 710
KANSAS CITY, MO 64131
816-333-6000

STATLANO, MORRIS IM
STATLANO CLINIC
6724 TROOST-SUITE 710
KANSAS CITY, MO 64131
816-333-6000

STEEL, MAXWELL W IM
2000 E. BANNISTER
BENOIX CORP KC DIV
KANSAS CITY, MO 64141
816-997-3200

STEFFEN, LAWRENCE F CD
9606 NIEMAN PLACE
SHAWNEE MISSION, KS 66214
913-888-2502

STEHR, CHRISTIAN H AN
1000 CARONDELET
ST. JOSEPH HOSPITAL
KANSAS CITY, MO 64114
816-942-4400
*STEINBRECHER, JANIS M IM
12005 CHEROKEE
LEAWOOD, KS 66209
913-383-2857
STELLE, CHAS W OM
9540 MISSION RO
APT. 31
SHAWNEE MISSION, KS 66206
913-381-1329
STELLE, ROBERT E FP
TRUMAN MEO CTR EAST
RT 17
KANSAS CITY, MO 64139
816-373-4415
STELMACH, WALTER J FP
5252 SUNSET OR
KANSAS CITY, MO 64112
816-444-1410
STEPHENS, JACK D AN
17421 MEDICAL CENTER PARKWAY
INDEPENDENCE, MO 64057
816-333-7484
STERN, THOS L FP
121 W 48TH ST.
KANSAS CITY, MO 64112
816-333-9700
STEVENSON, CHARLES E AN
LEE'S SUMMIT COMMUNITY HOSP.
530 N. MURRY POBOX 767
LEE'S SUMMIT, MO 64063
816-525-2950
STEWART, HARRY A P
4706 BROADWAY STE 105
KANSAS CITY, MO 64112
816-531-3686
STIASZNY, LOUIS K PO
9150 E. 41ST. TERRACE
KANSAS CITY, MO 64133
816-356-5000
STITT, RONALO W JR ORS
300 HIGHLANOS PROF. TOWER
6724 TROOST
KANSAS CITY, MO 64131
816-363-6500
STOCKTON, RAYMOND W U
4320 WORNALL RD
KANSAS CITY, MO 64111
816-753-2033
*STOOOARO, JAMES M IM
6020 OAK
KANSAS CITY, MO 64113
816-363-9332
STOUT, CARL N OPH
701 BLUE RIDGE TOWER
4240 BLUE RIDGE
KANSAS CITY, MO 64133
816-737-1010
STRATEMEIER, EOWARO H R
SUITE 340
2928 MAIN
KANSAS CITY, MO 64108
816-756-1050
STRAUSS, CARL F IM
8300 TROOST AVE
KANSAS CITY, MO 64131
816-363-7710
STRIBLING, THOS L OBG
17500 MEO CTR PARKWAY STE 3
INOEPENDENCE, MO 64057
816-478-0220
STRICKLER, DONNA G IM
6865 W. FOX RIDGE DR. #345
SHAWNEE MISSION, KS 66202
816-432-2182
STROMBERG, ERIC D AN
6400 PROSPECT AVE
KANSAS CITY, MO 64132
816-444-1139
SUAREZ, ALBERTO FP
615 W 3RD ST.
LEE'S SUMMIT, MO 64063
816-942-1446
SUODARTH, STERLING B PO
6214 VALLEY RO.
C/O HARVEY MIMS
KANSAS CITY, MO 64113
816-356-6634
SUENRAM, MARK R FP
225 S. OOUGLAS
LEE'S SUMMIT, MO 64063
816-525-2626
SULIT, ARNULFO P IM
2900 BALTIMORE BLDG STE 600
KANSAS CITY, MO 64108
816-753-5700
SUSEELA, DASARI PD
4900 SWOPE PKWY
KANSAS CITY, MO 64130
816-923-5800
SUTTON, RICHARD L O
3203 W 83RD TERRACE
SHAWNEE MISSION, KS 66206
913-383-1894

SWANSON, HOWARD J RHU
SUITE T101 RESEARCH MED OFF.
6420 PROSPECT
KANSAS CITY, MO 64132
816-363-4100
SWISHER, ROBT C R
416 GATEWAY DRIVE
JEFFERSON CITY, MO 65101
314-893-4745
SWORD, SUZANNE H FP
FAMILY MEDICINE CTR
2900 BALTIMORE BLD #400
KANSAS CITY, MO 64108
816-756-1222
SZABADOS, ERNEST O ORS
17221 E 23RD ST
INDEPENDENCE, MO 64057
816-373-2211
SZETO, J. SIMON IM
#200 RES OOWNTOWN HELTH CARE
AOMIRAL AT OAK
KANSAS CITY, MO 64106
816-471-2892
SZYMANSKI, OENNIS C NS
NEUROLOGY/NEUROSURGERY OF KC
4440 BROAOWAY
KANSAS CITY, MO 64111
816-561-4655
TALBOTT, LAWRENCE B PTH
4104 W. 110TH ST.
SHAWNEE MISSION, KS 66211
TAMBLYN, CLAIRE L AN
6801 BELINDER
SHAWNEE MISSION, KS 66208
913-362-6533
TASKER, CHAS B AN
11083 BURNTWOOO OR
SUN CITY, AZ 85351
602-977-4811
TAYLOR, JOHN R.W. OPH
6700 TROOST
SUITE 624
KANSAS CITY, MO 64131
816-363-5350
TELLA, NALINI IM
12633 W. 75TH TERR
SHAWNEE MISSION, KS 66216
815-531-4165
THALBLUM, HARVEY DR
6420 PROSPECT STE T209
KANSAS CITY, MO 64132
816-523-2400
THEEL, OTTO W FP
4301 MAIN ST
KANSAS CITY, MO 64111
816-931-3199
THIBEAULT, DONALO W PO
CHILDREN'S MERCY HOSP.
24TH & GILLHAM RD.
KANAS CITY, MO 64108
816-234-3592
THIELE, GEO H CRS
5201 NE ROMA AVE. #122
ALBUROUEROUE, NM 87108
505-931-4813
THOMAS, ALEXIS G IM
1734 E. 63RO
KANSAS CITY, MO 64110
816-923-3141
THOMAS, CHRISTOPHER Y GS
308 MEDICAL PL.
4320 WORNALL RO.
KANSAS CITY, MO 64111
816-753-7460
THOMAS, JAMES J AN
ANESTHESIA ASSOCIATES OF KC,
#142, 6400 PROSPECT
KANSAS CITY, MO 64132
816-444-1139
*THOMAS-RICHARDS, JOSE R ORS
SUITE 100
6025 PROSPECT AVE.
KANSAS CITY, MO 64130
816-361-4343
THOMPSON, CHAS L IM
SUITE 420
4320 WORNALL RD.
KANSAS CITY, MO 64111
816-252-4800
THOMPSON, OAVID E AN
17421 MED CTR PKWY
INDEPENDENCE, MO 64057
THOMPSON, MICHAEL F IM
511 W. 97TH
KANSAS CITY, MO 64114
816-942-2710
THRONE, BENNIE J TR
RESEARCH MED. OFFICE TOWER
6420 PROSPECT, STE.T513
KANSAS CITY, MO 64132
816-363-2677
THRONE, ELIAS M PM
RESEARCH MEDICAL CENTER
KANSAS CITY, MO 64132
816-276-4256
TICE, WAYNE K DR
3626 BLUE JACKET DRIVE
LEE'S SUMMIT, MO 64063
816-373-3385

TILLEMA, DAVIO A ORS
751 E. 63RD ST.
SUITE 300
KANSAS CITY, MO 64110
816-444-4664
TIOJANCO, MILAGROS E AN
11807 WASHINGTON
KANSAS CITY, MO 64114
816-941-8314
TIOJANCO, REYNALDO R FP
6013 LEAVENWORTH RD.
KANSAS CITY, KS 66104
TITTERINGTON, FRANK W IM
236 MEDICAL PLAZA
4320 WORNALL RD
KANSAS CITY, MO 64111
816-531-2020
TOUBES, DANIEL B IM
8300 TROOST ST
KANSAS CITY, MO 64131
816-363-7710
TREVOR, RICHARD P N
RESEARCH MEO BLOG.
STE T209 6420 PROSPECT
KANSAS CITY, MO 64132
816-523-2400
TRIMBLE, GEO X IM
101 MEMORIAL OR
KANSAS CITY, MO 64108
816-753-5700
TROEH, MELVIN R IM
1515 W. TRUMAN RD.
SUITE 301
INOEPENOENCE, MO 64050
816-836-8130
TROWBRIDGE, BARNARO C OTO
415 E 63RD ST
KANSAS CITY, MO 64110
816-361-0744
TROWBRIDGE, ELLSWORTH P
18435 101ST OR
SUN CITY, AZ 85373
602-972-3132
TUOHY, GERALO F AN
44TH & WORNALL RO
KANSAS CITY, MO 64111
816-932-2033
TURANO, WM L OBG
6700 RAYTOWN RO
RAYTOWN, MO 64133
816-358-5300
TURNER, BARRY D ORS
P.O. BOX 12650
TUCSON, AZ 85732
TURNER, RONALD M GS
1515 W TRUMAN RO STE 40
INOEPENOENCE, MO 64050
816-254-9292
TUTERA, DOMINIC F OBG
4400 BROAOWAY
KANSAS CITY, MO 64111
816-561-3767
TWIN, EDWARD J IM
2301 HOLMES
KANSAS CITY, MO 64108
816-556-3153
TWYMAN, RICHARO A GS
7919 BRISTOL CT
SHAWNEE MISSION, KS 66208
913-642-7919
UNDERWOOD, OICK H OPH
624 ROCKHILL MED. BLDG.
6700 TROOST
KANSAS CITY, MO 64131
816-363-5350
UPSHER, ALBERT E PTH
BOX 2778
KANSAS CITY, MO 64142
816-842-4850
VALENTINE, JOHN D EM
5110 NEOSHO
SHAWNEE MISSION, KS 66205
913-384-5472
VAN HIHER, JAMES T PD
1612 W TRUMAN RD
INDEPENDENCE, MO 64050
816-252-9922
VAN BUSKIRK, TERRANCE E GP
5246 ST JOHN AVE
KANSAS CITY, MO 64123
816-231-0141
VAN BUSKIRK, WM C GS
6700 TROOST SUITE 308
KANSAS CITY, MO 64131
816-361-1822
VANZANT, REBECCA L IM
10408 E 42ND ST. APT G
KANSAS CITY, MO 64133
816-356-3389
VAUGHN, JAMES W P
411 NICHOLS RD-STE 208
KANSAS CITY, MO 64112
816-561-6766
VAUGHTERS, FRANK M PD
2727 MAIN
KANSAS CITY, MO 64108
816-471-2161
VEENSTRA, SALLIE L PD
1001 N. INDEPENDENCE AVE.
LEE'S SUMMIT, MO 64063
524-5600

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* Doctor of Osteopathy.

VENEGONI, ROBT L AN
600 ROCKHILL MED. BLDG.
6700 TROOST
KANSAS CITY, MO 64131
816-523-7777
VERA, ENRIOUE P
6724 TROOST
KANSAS CITY, MO 64131
816-361-0899
VERDUGHT, AMMON L IM
3910 WOODRIDGE OR.
LEE'S SUMMIT, MO 64063
VERGARA, GERARDO G PTH
31ST & WYANDOTTE
KANSAS CITY, MO 64108
816-753-4600
*VIALLE, GENE M AN
SUITE 142
6400 PROSPECT
KANSAS CITY, MO 64132
816-556-3216
VICTOR, FRANK R DR
900 HIGHLAND PROF TOWER
6724 TROOST
KANSAS CITY, MO 64131
816-333-8420
VIDALS, VICTOR G GS
1010 CARONOELET-SUITE 1
KANSAS CITY, MO 64114
816-941-0044
VILLANUEVA, ANGELA A PTH
ST. JOSEPH HOSP
1000 CARONDELET DR.
KANSAS CITY, MO 64114
816-942-4400
VIRIL, LEONARDO C GE
4706 BROADWAY
KANSAS CITY, MO 64112
816-931-5000
VOGEL, ARTHUR P AN
2215 DRURY LANE
SHAWNEE MISSION, KS 66208
913-236-8942
*VOGT, MARK D IM
4623 W. 70TH
PRAIRIE VILLAGE, KS 66202
VOLK, GEO E OBG
SUITE T-307
6420 PROSPECT
KANSAS CITY, MO 64132
816-361-4747
VON LINTEL, THOMAS AN
ST. LUKE'S HOSP.
44TH ANO WORNALL RD.
KANSAS CITY, MO 64111
816-932-2033
VOSHALL, DAVIO L IM
1311 DEER RUN TRAIL
BLUE SPRINGS, MO 64015
816-228-4469
VOTH, HAROLO W IM
4320 WORNALL RD
KANSAS CITY, MO 64111
816-753-3243
WADOELL, THOMAS H DR
710 MEDICAL PLAZA
4320 WORNALL RO
KANSAS CITY, MO 64111
816-531-9481
WADE, FREDERICK E OPH
1215 W. 68TH TERR.
KANSAS CITY, MO 64113
816-444-1312
WAECKERLE, JOSEPH F EM
800 W 53RD ST.
KANSAS CITY, MO 64112
816-444-7747
WAGNER, PAUL J AN
GREENWILLOW FARM RT 1
GREENWOOD, MO 64034
WAKEFIELD, FRANKLIN H GP
13065 100TH DR
SUN CITY, AZ 85351
602-977-7589
WALDEN, JAMES M IM
3239 VICTOR
KANSAS CITY, MO 64128
314-924-9022
WALDMAN, RICHARD A PD
24TH & GILLHAM RD
KANSAS CITY, MO 64108
816-234-3252
WALDMAN, STEVEN D AN
P.O. BOX 8614
SHAWNEE MISSION, KS 66208
WALKER, ORVILLE C PD
1515 W TRUMAN RD
INOEPENDENCE, MO 64050
816-833-0990
WALL, HARRY C A
601 E. 63RD ST. SUITE 301
KANSAS CITY, MO 64110
816-333-6390
WALL, LEONARD A OBG
4320 WORNALL RO.
SUITE 520
KANSAS CITY, MO 64111
816-531-9400

WALLACE, DARRYL L OBG
OEPT. OF MED. ED., ST. LUKE
44TH AND WORNALL RD
KANSAS CITY, MO 64111
816-932-2047
WALZ, COLLEEN FP
524 W THIRD
LEE'S SUMMIT, MO 64063
525-2400
*WASSERMAN, GARY S PD
CHILDRENS MERCY HOSP DE
24TH & GILLHAM RD
KANSAS CITY, MO 64108
816-234-3000
WATERS, JEFFREY A PD
206 BROADWAY MEDICAL BL
4400 BROADWAY
KANSAS CITY, MO 64111
816-561-8100
WATHANACHAROEN, SUCHINT TS
4320 WORNALL RD
KANSAS CITY, MO 64111
816-931-7743
WAXMAN, HERBERT J IM
8300 TROOST AVE THE MED
KANSAS CITY, MO 64131
816-684-4946
WAXMAN, JANE Z PD
5800 MISSION DR
SHAWNEE MISSION, KS 66208
913-677-3318
WEAVER, MICHAEL L IM
4505 HEADWOOD #1
KANSAS CITY, MO 64111
816-931-8881
WEBB, HARRY E PS
4400 BROADWAY
KANSAS CITY, MO 64111
816-753-0303
WEIFORD, EDWARD C NS
4320 WORNALL RD
SUITE 328
KANSAS CITY, MO 64111
816-931-1150
WEINER, LOWELL M PO
373 WEST 101ST TERRACE
KANSAS CITY, MO 64114
816-942-8200
WEINSTEIN, CHAS L N
4440 BROADWAY
KANSAS CITY, MO 64111
816-561-4655
WEIR, ROBT K OPH
610 BLUE RIDGE TOWER
4240 BLUE RIDGE BLVD
KANSAS CITY, MO 64133
816-358-3600
WELLS, DONALD E IM
3800 LOCUST
KANSAS CITY, MO 64109
816-444-2098
WELLS, JAMES A AN
1008 VALENTINE RD
KANSAS CITY, MO 64111
816-931-2120
WELLS, STANLEY O DR
6420 PROSPECT
SUITE T209
KANSAS CITY, MO 64132
816-523-2400
WENNER, HERBERT A PD
CHILDRENS MERCY HOSP
24TH & GILLHAM RD
KANSAS CITY, MO 64108
816-234-3061
WEST, HAROLD D ORS
1515 W TRUMAN RD
INOEPENDENCE, MO 64050
816-254-4800
WHEELER, CHAS B PH
4320 WORNALL RD
KANSAS CITY, MO 64111
816-931-4141
WHISENANT, MICHAEL N IM
7900 N. ANITA
APT. 3
KANSAS CITY, MO 64151
816-455-1105
WHITAKER, JAMES H ORS
6420 PROSPECT
SUITE T207
KANSAS CITY, MO 64132
816-444-9000
WHITE, CHAS H AN
6518 OVERHILL RD
SHAWNEE MISSION, KS 66208
913-362-7721
WHITE, JAMES S U
751 E 63RD ST
KANSAS CITY, MO 64110
816-444-4780
WHITE, STOUGHTON F U
4320 WORNALL RD
KANSAS CITY, MO 64111
816-561-7612
WHITE, WM E NM
6400 PROSPECT
KANSAS CITY, MO 64132
816-333-5787

WHITMAN, DANIEL S IM
UMKC SCHOOL OF MEDICINE
2411 HOLMES
KANSAS CITY, MO 64108
816-474-4100
WHITMAN, DOYLE C OM
6836 CHEROKEE LANE
SHAWNEE MISSION, KS 66208
816-262-4488
WHITMORE, J S R
2929 BALTIMORE
KANSAS CITY, MO 64108
816-756-1049
WHITTAKER, CHAS K NS
4440 BROADWAY
KANSAS CITY, MO 64111
816-561-4655
WIEN, IRVING A GS
917 MCGEE
KANSAS CITY, MO 64106
816-421-2388
WIENTZEN, ARTHUR S IM
373 W. 101ST TERRACE
KANSAS CITY, MO 64114
816-940-8200
WILBER, ROBT D GE
4320 WORNALL RD STE 208
KANSAS CITY, MO 64111
816-531-0552
WILHELM, WARREN F IM
6420 PROSPECT
SUITE T101
KANSAS CITY, MO 64132
816-363-4100
WILKINS, MICHAEL S IM
48 E. 53RD ST.
KANSAS CITY, MO 64112
816-756-2673
WILKINSON, CHAS B P
600 E. 22ND ST.
KANSAS CITY, MO 64108
816-471-3000
WILKINSON, EVERETT A GS
228 RESEARCH MED OFF BL
6400 PROSPECT
KANSAS CITY, MO 64132
816-333-8361
WILKINSON, JAMES D PD
SUITE 561 2400 PERSHING RD.
KANSAS CITY, MO 64108
816-942-8200
WILLIAMS, FENTON A R
1734 E 63RD ST
KANSAS CITY, MO 64110
816-523-1061
WILLIAMS, GARY D IM
12456 W. 62NO TERR
SHAWNEE MISSION, KS 66216
913-268-5224
WILLIAMS, GEO P FP
10928 HILLCREST RD
KANSAS CITY, MO 64134
816-763-2442
WILLIAMS, JOS C OBG
T301 RESEARCH MED. BLD.
6420 PROSPECT
KANSAS CITY, MO 64132
816-444-6888
WILLIAMS, KATHLEEN M PO
373 W. 101ST TERR.
KANSAS CITY, MO 64114
816-942-8200
WILLIAMS, ROLAND D OTO
1010 CARONDELET DR.
SUITE 224
KANSAS CITY, MO 64114
816-942-7200
WILLIAMS, STARKS J PD
1734 E. 63RD ST.
SUITE 205
KANSAS CITY, MO 64110
816-361-6699
WILLOUGHBY, JAMES W A
1125 GRAND AVE
KANSAS CITY, MO 64106
816-842-6262
WILLOUGHBY, JEAN B IM
1019 W. 69TH TERR.
KANSAS CITY, MO 64113
816-523-6434
WILSON, CLIFFORD C CRS
1129 LEISURE LANE #8
WALNUT CREEK, CA 94595
WINER, HERBERT J OBG
6724 TROOST STE 210
KANSAS CITY, MO 64131
816-444-2505
WINER, NATHANIEL IM
2301 HOLMES
TRUMAN MEDICAL CENTE
KANSAS CITY, MO 64108
816-474-4100
WINKELMAN, ESTHER B GP
6400 PROSPECT SUITE 224
KANSAS CITY, MO 64132
816-523-4435
WINSTON, BERNARD H D
601 E 63RD ST
KANSAS CITY, MO 64110
816-363-1451

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* Doctor of Osteopathy

WISE, GEO W PD
CHILDREN'S MERCY HOSPITAL
24TH & GILLHAM
KANSAS CITY, MO 64108
816-234-3664
WISE, MDRRIS F U
6724 TROOST SUITE
KANSAS CITY, MO 64131
816-333-7885
WOLF, JACK W IM
6724 TRODST AVE STE 500
KANSAS CITY, MO 64131
816-363-5662
WDLTJEN, JDHN A GE
2900 BALTIMDRE
SUITE 620
KANSAS CITY, MO 64108
816-756-0595
WOOD, BARRY C IM
4320 WORNALL RD. SUITE 208
KANSAS CITY, MO 64111
816-531-0552
WOOD, DAVID G DR
340 PENN PARK
2928 BALTIMORE
KANSAS CITY, MD 64108
816-756-1050
WOODS, HARDLD V GP
917 MC GEE
KANSAS CITY, MO 64106
816-421-2388
WOODS, S. DWIGHT GS
4320 WDRNALL RD RM 216
KANSAS CITY, MO 64111
816-561-6453
WOODS, WALTDN C OM
9004 E. 73RD. ST
KANSAS CITY, MO 64133
816-353-4714
WOODWARD, WM W IM
4240 BLUE RIDGE BLVD
KANSAS CITY, MO 64133
816-356-8877
WORTMANN, RDBT F OBG
2819 W 66TH TERR
SHAWNEE MISSION, KS 66208
913-362-3133
WRIGHT, R P IM
6700 TRODST ST-STE 40
KANSAS CITY, MO 64131
816-333-3211
WU, SHUH-MIN IM
6724 TRODST AVE STE 500
KANSAS CITY, MO 64131
816-363-5662
WU, WM O NS
6700 TRODST
KANSAS CITY, MO 64131
816-333-6650
WURSTER, JERRY B OPH
4320 WORNALL RD
KANSAS CITY, MO 64111
816-561-2289
WURSTER, W J OTO
1010 CARONDELET DR.
SUITE 224
KANSAS CITY, MD 64114
816-942-7200
YOON, JAE W R
DEPT. OF RAD.
2301 HOLMES
KANSAS CITY, MD 64108
816-556-3275
YOULL, DONALD V A
1010 CARONDELET DR.
SUITE 220
KANSAS CITY, MO 64114
816-941-9130
YOUMANS, RONALD A N
415 E 63RD ST
KANSAS CITY, MO 64110
816-333-2891
YOUNG, JAMES E P
4320 WDRNALL RD STE 716
KANSAS CITY, MO 64111
816-931-4311
YOUNG, JESSE W GP
1401 SOUTHWEST BLVD
KANSAS CITY, KS 66103
816-262-0550
YOUNGBLOOD, JAMES P OBG
1010 CARONDELET DR
SUITE 328
KANSAS CITY, MO 64114
816-941-0700
YU, MARIO K N
SUITE 117
4706 BROADWAY
KANSAS CITY, MO 64112
816-531-1422
ZAHONY, IVAN AN
8255 W. 172ND TERRACE
STILWELL, KS 66085
913-681-8072
ZERR, CHARLES H IM
1100 WEST TRUMAN RD.
INDEPENDENCE, MO 64050
816-254-3555

ZIEMIANSKI, MATTHEW C OPH
110 ROCKHILL MEDICAL BL
6700 TRODST
KANSAS CITY, MO 64131
816-333-7376
ZINN, MARCIA V AN
TRUMAN MED. CTR. DEPT SURG.
2301 HDLMES
KANSAS CITY, MD 64108
816-556-3216
ZOLLER, DAVID D PTH
101 MEMORIAL DR
KANSAS CITY, MO 64108
816-753-5700
ZUKAITIS, MARK G AN
142 RESEARCH MED. DFF. BLDG.
6400 PROSPECT
KANSAS CITY, MO 64132
816-444-1139
ZWERENZ, BRUND H P
1734 EAST 63RD STREET
KANSAS CITY, MO 64110
816-444-2099

102—JASPER

ABERGER, FRANK J GE
3302 MC INTDSH CIRCLE
JOPLIN, MO 64801
417-624-1520
ABU-LIBDEH, ALI J RHU
2631 CUNNINGHAM
JOPLIN, MD 64801
417-623-2600
ADAMS, ROBERT B IM
3103 MC CLELLAND BLVD
JOPLIN, MD 64801
417-781-3100
AL-SHATHIR, SAAD PM
BRADY BUILDING
2727 MC CLELLAND BLVD
JOPLIN, MO 64801
417-782-4111
ALLEN, DAVID O U
3105 MC CLELLAND BLVD
JDPLIN, MO 64801
417-623-3703
ARNDLD, JAMES T DR
RT 1, BDX 632A-1
GROVE, DK 74344
BENTLAGE, CHARLES H GS
1513 W 32ND ST
JOPLIN, MO 64801
417-781-6844
BHEND, DAVID P P
3115 MC CLELLAND BLVD
JOPLIN, MO 64801
417-781-6334
BIRSNER, FRANK H GP
RT 1 BOX 1106
JOPLIN, MO 64801
417-673-3349
BOPP, J. RONALD OBG
3115 MC CLELLAND BLVD
JOPLIN, MO 64801
417-781-6932
BORELLD, DAN J OBG
3115 MCCLELLAND BLVD.
JOPLIN, MO 64801
417-781-6932
BRANDON, FREDERICK M R
P. O. BOX 2337
1722 W. 27TH ST
JOPLIN, MO 64803
417-624-5882
BROWNING, RONALD A IM
3402 MCINTOSH CIRCLE DR.
JOPLIN, MO 64801
417-781-9200
BURCH, JOHN E DBG
P O BOX 2247
302 W. 18TH
JOPLIN, MO 64801
417-623-4009
BURLEIGH, BRUCE W DRS
2700 MC CLELLAND BLVD
BLDG A, SUITE 104
JOPLIN, MO 64801
417-781-2807
CARNES, VICTOR M PTH
P O BOX B
JOPLIN, MO 64801
417-623-6330
CHANDRAMOHAN, NANJAPPA IM
616 W. CENTENNIAL
CARTHAGE, MO 64836
417-358-4680
CHAPMAN, RAMDNA MARIE ONC
ST. JOHN'S REGIONAL DNC CTR
2727 MC CLELLAND
JOPLIN, MO 64801
417-781-2301
CHASE, NED B ORS
2700 MC CLELLAND BLVD
BLDG. A, SUITE 104
JDPLIN, MO 64801
417-781-2807

CHELLAPPA, DANU IM
SUITE 215 2817 MC CLELLAND
JDPLIN, MD 64801
417-781-9197
CHESNEY, GEDRGE W AN
2604 PICHER ST
JOPLIN, MD 64801
417-623-1211
CHD, DON DONGCHEUL IM
P. O. BDX 447
1206 MAC ARTHUR DR.
WEBB CITY, MO 64870
417-673-5794
CLARK, FRANK I PD
3107 MC CLELLAND BLVD
JDPLIN, MD 64801
417-781-3121
CDHLE, RICHARD R IM
301 E CHESTNUT ST
CARTHAGE, MD 64836
417-358-2689
CDLLN, MICHAEL G IM
3302 MC INTOSH CIRCLE
JOPLIN, MD 64801
417-624-1520
CONDE, GARY A FP
2601 CUNNINGHAM, LOWER LEVEL
JDPLIN, MO 64801
417-781-0836
CORCORAN, FRANCIS H CD
2817 MC CLELLAND BLVD.
SUITE 210
JOPLIN, MD 64801
781-5387
CRAIG, IRWIN T OBG
2039 GULF DF MEXICO DR
LONGBDAT KEY, FL 33548
813-383-2266
CRISPELL, LAWRENCE S DTO
3302 MCINTOSH CIRCLE DR.
JDPLIN, MO 64801
417-623-6262
DANDRIDGE, WALTER C GS
2601 CUNNINGHAM
JDPLIN, MD 64801
417-781-4404
DAVIS, CHARLES S CD
2817 MCCLELLAND BLVD.
SUITE 214
JOPLIN, MO 64801
417-623-7448
DE TAR, BURLEIGH E GS
2700 MCCLELLAND BLVD.
SUITE 211 BLDG B
JOPLIN, MO 64801
417-623-5600
*DEFFENBAUGH, LARRY D IM
2700 MC CLELLAND BLVD
BLDG B, SUITE 206
JOPLIN, MD 64801
417-782-4701
DEMENT, OMAN E OBG
3101 MC CLELLAND BLVD.
JDPLIN, MO 64801
417-624-1711
DIXON, HERBERT K OPH
3201 MCINTOSH CIRCLE DR.
JOPLIN, MD 64801
417-624-8390
DOODY, DIAN L PD
3107 MC CLELLAND
JOPLIN, MO 64801
417-781-3121
DOODY, PATRICK T NEP
2817 MC CLELLAND BLVD.
SUITE 110
JOPLIN, MO 64801
417-782-5000
ELLINGTON, BEVERLY T PD
3315 MC INTOSH CIRCLE
JOPLIN, MO 64801
417-624-1520
ESCH, JOHN G ORS
2700 MCCLELLAND BLVD.
BLDG A, SUITE 104
JOPLIN, MO 64801
417-781-2807
ESTHER, JOHN R PTH
FERGUSONS LAB BOX B
JOPLIN, MO 64801
417-623-6330
FERGUSON, ROBT M GP
508 E 32ND
JOPLIN, MO 64801
417-781-5220
FRITSCH, ANDREW J IM
2525 JACKSON ST
JOPLIN, MO 64801
417-623-1333
FROGGE, JIM D U
3105 MC CELLAND BLVD
JOPLIN, MO 64801
417-623-3703
GARDNER, JOE A OBG
2700 MCCLELLAND BLVD.
SUITE 109 BLDG A
JOPLIN, MO 64801
417-782-2660

---

* Doctor of Osteopathy

GASTON, SAMUEL L   R
3115 MC CLELLANO
JOPLIN, MO 64801
417-624-1920
GOFF, JOHN E   FP
2601 CUNNINGHAM
LOWER LEVEL
JDPLIN, MO 64801
417-782-3600
GRAHAM, JOSEPH M   COS
2817 MC CLELLANO
SUITE 211
JOPLIN, MO 64801
417-782-2190
GREBE, T. KEITH   OBG
3101 MC CLELLANO
JOPLIN, MO 64801
417-624-1711
GREEN, JAMES R   OBG
3101 MC CLELLANO BLVO.
JOPLIN, MO 64801
417-624-1711
GRIM, EOWARD M   U
3105 MC CLELLAND BLVO
JOPLIN, MO 64801
417-623-3703
GROTE, RAYMONO   PO
3302 MCINTOSH CIRCLE
JOPLIN, MO 64801
417-624-1520
GRUBB, PAUL H   GP
2509 JACKSON
JOPLIN, MO 64801
417-624-1421
HABERMANN, JAMES H   PTH
2700 MC CLELLANO BLDG B
JOPLIN, MO 64801
417-623-6330
HALL, MARVIN F   R
116 CONNER
JOPLIN, MO 64801
417-624-0716
HALLABA, M. A. S.   GS
2401 JACKSON
JOPLIN, MO 64801
417-782-1110
HATLELIO, R. ROBERT   NEP
2817 MCCLELLANO BLVD.
SUITE 110
JOPLIN, MO 64801
782-5000
HILTON, PAUL E   O
2700 MC CLELLANO BLDG A
JOPLIN, MO 64801
417-624-1331
HOLTZMAN, SAMUEL   O
3001 MARTIN L KING OR A
CHICAGO, IL 60616
HURST, WILFREO W   ORS
3115 MC CLELLANO
JOPLIN, MO 64801
417-624-3232
JEANS, VIRGIL E   GS
660 JACCARO PL
JOPLIN, MO 64801
417-623-8431
JUDGE, MARK A   OPH
2401 JACKSON AVE.
JOPLIN, MO 64801
417-781-3630
KELLY, JOHN B   OBG
3101 MC CLELLANO
JOPLIN, MO 64801
624-1711
KUHN, JOHN R   GP
321 FRISCO BLDG
JOPLIN, MO 64801
417-623-4771
LEVANVO, WILLIAM   IM
2817 MC CLELLANO BLVO.
SUITE 212
JOPLIN, MO 64801
417-623-1431
LOESCH, J. JOHN   AN
2604 PICHER
JOPLIN, MO 64801
417-623-1211
*LONG, CHESTER I   IM
2700 MCCLELLANO BLVO.
BLDG-B SUITE 209
JOPLIN, MO 64801
417-782-4601
MAC LAUGHLIN, JAMES C   IM
3103 MC CLELLANO BLVO
JOPLIN, MO 64801
417-781-3100
MAJZOUB, HISH S   NS
2902 MC CLELLAND
SUITE 1
JOPLIN, MO 64801
417-761-4733
MANGALAT, NARAYANAN K   NEP
2817 MCCLELLANO BLVO.
SUITE 205
JOPLIN, MO 64801
417-781-1714
MARTIN, CLARENCE A   GS
1513 W 32ND
JOPLIN, MO 64801
417-623-6114

MC GONIGLE, JAMES P   OPH
2630 CUNNINGHAM
JOPLIN, MO 64801
417-781-6330
MC GONIGLE, MICHAEL M   GP
2620 CUNNINGHAM
JOPLIN, MO 64801
417-781-4613
MC PIKE, LLOYO H   GS
2217 BROWNELL ST
JOPLIN, MO 64801
417-623-5142
MEREOITH, WILLIAM R   OPH
2817 MCCLELLANO
JOPLIN, MO 64801
417-782-1333
MOORE, THOMAS B   CO
2817 MC CLELLANO BLVD.
SUITE 201
JOPLIN, MO 64801
417-781-5387
MUELLER, ADOLPH R   ORS
2700 MC CLELLANO BLVO
BLDG A, SUITE 104
JOPLIN, MO 64801
417-781-2807
NEWMAN, WILLIAM R   PD
3107 MC CLELLAND BLVO.
JOPLIN, MO 64801
417-781-3121
NICKELL, MICHAEL O   IM
3402 MCINTOSH CIRCLE OR.
JOPLIN, MO 64802
417-781-7110
PATTERSON, DONALO R   FP
3302 MCINTOSH CIRCLE
JOPLIN, MO 64801
417-624-1520
PATTERSON, GROVER S   FP
510 S MAIN ST
CARTHAGE, MO 64836
417-358-2881
PEARMAN, CARL C   GYN
2700 MC CLELLANO BLVO.
SUITE 204 BUILDING B
JOPLIN, MO 64801
417-782-1800
PENCE, F. WENOELL   FP
2817 MC CLELLANO BLVO
SUITE 114
JOPLIN, MO 64801
417-781-4220
POTTENGER, L. KENNETH   OR
P. O. BOX 2337
1722 W. 27TH
JOPLIN, MO 64801
417-624-5882
POWELL, ROBT G   IM
RR 1 BOX 408
RIVERTON, KS 66770
316-848-3828
PRYOR, IRA JOE   AN
2902 MCCLELLANO BLVD.
SUITE 5
JOPLIN, MO 64801
417-781-6661
*PYRON, JIMMY W   EM
RT 7, BOX 361
JOPLIN, MO 64801
417-781-8661
RATHNAKUMAR, KALAICHELVI   AN
2902 MC CLELLANO BLVO
SUITE 5
JOPLIN, MO 64801
417-781-6661
REOOY, ANCHALA N   PUO
2509 JACKSON
JOPLIN, MO 64801
417-782-3212
REODY, NALINI A   OPH
2509 JACKSON
JOPLIN, MO 64801
417-782-2338
REOOY, VOOUR C   U
2700 MC CLELLANO BLVO.
BLOG B SUITE 214
JOPLIN, MO 64801
417-782-0045
RINGEN, ORAN J JR   FP
3302 MCINTOSH CIRCLE OR
JOPLIN, MO 64801
417-624-1520
ROBERTS, HOWARO H   OBG
3101 MC CLELLANO
JOPLIN, MO 64801
417-624-1714
ROYCE, JAMES J   GP
16TH MINER STS
SARCOXIE, MO 64862
417-548-3334
SABAPATHY, SHAN   CD
2817 MCCLELLANO #225
JOPLIN, MO 64801
417-781-4260
SANEMAN, PAUL P   OBG
2700 MC CLELLAND BLVD
BLDG A, SUITE 108
JOPLIN, MO 64801
417-781-4530

SCHMIDT, HERBERT J   OBG
2700 MC CLELLAND
BLOG B, SUITE 204
JOPLIN, MO 64801
417-782-1800
SCHOEBERL, C. B   IM
2817 MC CLELLANO BLVO.
SUITE 213
JOPLIN, MO 64801
417-624-6639
SCHULTE, GREGORY A   GP
2515 E. 12TH ST.
JOPLIN, MO 64801
417-623-6069
SCORSE, SIONEY W   EM
RT. 1 BOX 236
NEOSHO, MO 64850
417-624-3594
SHANAHAN, MARY P   OBG
2530 MAIOEN LANE
JOPLIN, MO 64801
417-623-6525
SHARP, JIM F   FP
3315 MC INTOSH
JOPLIN, MO 64801
417-624-1520
SHRIVER, RONALO G   OR
3115 MC CLELLANO BLVO.
JOPLIN, MO 64801
417-624-1920
SIMMONS, JESS S   O
2700 MC CLELLANO BLVO
BLOG A
JOPLIN, MO 64801
417-624-1331
SINGLETON, MARVIN A   OTO
114 W 32NO ST
JOPLIN, MO 64801
417-781-2040
SKELLEY, MARK J   ONC
2118 EAST 35TH ST.
JOPLIN, MO 64801
417-781-2301
SMITH, OENNIS W   IM
2700 MC CLELLAND
BLDG B SUITE 215
JOPLIN, MO 64801
417-623-5610
SMITH, ROLANO T   GS
MEOICAL ARTS BLOG
JOPLIN, MO 64801
417-624-1000
SMITH, W. RUSSELL   GS
315 EUCLIO
CARTHAGE, MO 64836
417-358-2911
ST. JOHN, DONALO R   EM
1011 S. STONEHAVEN
MARSHALL, MO 65340
816-886-5780
STIDMAN, FREOERICK C   PO
3107 MC CLELLANO BLVO
JOPLIN, MO 64801
417-781-3121
STINNETT, O. MITCHELL   CO
2817 MCCLELLANO BLVO.
SUITE 211
JOPLIN, MO 64801
782-2190
STRAUB, OAVIO L   PO
2902 MCCLELLAND BLVO.
SUITE 2
JOPLIN, MO 64801
417-782-1343
TURFBOER, ROBERT   P
2701 WEST 32NO ST.
JOPLIN, MO 64801
417-782-0168
VINYARO, JACK L   GP
2329 JACKSON
JDPLIN, MO 64801
417-781-1132
WALKER, PAUL W   U
1022 N SERGEANT
JOPLIN, MO 64801
417-624-3035
WARO, MARK   FP
3315 MCINTOSH CIRCLE
JOPLIN, MO 64801
417-624-1520
WHITTEN, M. FOSTER   GS
RT 4
CARTHAGE, MO 64836
417-358-4594
WILCOX, RUTH E   PO
614 JOPLIN ST
JOPLIN, MO 64801
417-623-6563
WILLCOXDN, ROBERT L   GS
2601 CUNNINGHAM
JOPLIN, MO 64801
417-781-4404
WILLIAMS, RICHARO F   FP
1620 MISSOURI
CARTHAGE, MO 64836
417-358-3411
WILSON, ALICE H   FP
RTE 1 BOX 163
NEOSHO, MO 64850
417-624-7229

---

* Doctor of Osteopathy

YOUNG, CALVIN C R
3115 MC CLELLAND
JOPLIN, MO 64801
417-624-1920

106—JEFFERSON

ALBANO, BENJ I GS
P O BOX 380
CRYSTAL CITY, MO 63019
314-937-8642
ALBANO, MARIA C GP
BDX 12
CRYSTAL CITY, MD 63019
314-937-1766
ALLBEE, ROGER H GS
121 B MISSISSIPPI
CRYSTAL CITY, MO 63019
314-937-7776
BAI, SAMUEL S CD
107 WALNUT ST
FESTUS, MO 63028
314-937-2116
BELEN, MARIETTA PD
COUNTY-WIDE PEDIATRICS, INC.
103 NORTH MILL ST.
FESTUS, MO 63028
314-937-0707
BLANK, MICHAEL K GS
P.O. BOX 899
DE SOTD, MO 63020
314-586-2226
BONIFACIO, ANDRES S OBG
121 MISSISSIPPI
CRYSTAL CITY, MD 63019
314-937-3644
CARRON, JOSEPH FP
1606 HDBELMANN
ARNOLD, MO 63010
CHARLES, NALLATHAMBI FP
P.O. BOX 69
FESTUS, MO 63028
314-937-9199
CHARLES, PADMINI GP
MEDICAL VILLAGE
RT #4
FESTUS, MO 63028
314-937-8989
CONANT, JAMES F GP
P.O. BOX 216
DE SOTD, MO 63020
314-586-2226
DATTA, NARENDAR K OBG
PDST OFFICE BOX 168
CRYSTAL CITY, MO 63019
314-937-4590
DONNELL, HARDLD E FP
700 N MAIN
DE SOTO, MO 63020
314-586-2213
DONNELL, ROBT H DR
113 CRYSTAL HEIGHTS RD
CRYSTAL CITY, MD 63019
314-937-4641
DONNELL, THOS A GP
BDX 592
HILLSBORO, MO 63050
DUA, PREM N PD
P.O. BOX 210
BONNE TERRE, MO 63628
314-586-2123
ELTERMAN, JOSEPH J IM
BOX 186
CRYSTAL CITY, MD 63019
479-4888
FDY, THOMAS M PD
P.O. DRAWER B
CRYSTAL CITY, MD 63019
314-937-8040
JAMALUDDIN, MOHIDEEN A IM
305 MAIN ST.
FESTUS, MO 63028
314-937-9199
JDHNSDN, GDRDON L PTH
JEFFERSON MEMORIAL HOSPITAL
FESTUS, MO 63028
314-937-8651
JUDGE, WALTER T GS
1004 TAYLOR AVE
CRYSTAL CITY, MO 63019
KIM, TAE S GS
P.O.BOX 31
CRYSTAL CITY, MO 63019
314-937-6601
KORECKIJ, THEODORE ORS
124 MISSISSIPPI
CRYSTAL CITY, MD 63019
314-937-1766
LEE, JUNG H CD
P O BOX 309
CRYSTAL CITY, MO 63019
314-937-0817
PARK, DUK J IM
105 WALNUT ST
FESTUS, MD 63028
314-937-9322
PARK, KUN H OBG
P. O. BOX 667
MED VILLAGE SUITE 106
FESTUS, MO 63028
314-937-6630
REED, MARTHA A IM
JEFFERSON SQUARE SHOPPING
DE SOTO, MO 63020
314-586-6820
*SCHWENT, JOHN T US
125 MISSISSIPPI AVE
CRYSTAL CITY, MO 63019
VERZOLA, EUFEMIO G GS
1004 INDUSTRIAL DR.
HERCULANEUM, MO 63048
314-937-8675
YOSKIT, HARRY D
C/O HERMAN GUZOFEKY
90-50 UNION TURNPIKE
RIDGEWOOD, NY 11385

110—JOHNSON

CDOPER, ROBT L GP
P.O. BOX 458
WARRENSBURG, MO 64093
816-747-6162
COOPER, ROBT L II OBG
P O BOX 458
WARRENSBURG, MD 64093
816-747-6162
FDLKNER, ALBERT L GP
222 E CULTON ST
WARRENSBURG, MO 64093
816-747-5114
GLDVER, DAVID FP
220 E. CULTON
WARRENSBURG, MO 64093
816-747-5114
GONZALEZ, MARIO G R
JOHNSON CD MEM HDSP
WARRENSBURG, MO 64093
816-747-8415
GROVE, GULPH W GP
210 E MC PHERSON
KNOB NOSTER, MO 65336
HANNA, HUGH A GS
ROUTE 7
SOUTH MITCHELL ST.
WARRENSBURG, MO 64093
816-747-7610
JOHNSON, CHAS S IM
P. O. BDX 8
WARRENSBURG, MO 64093
JONES, KEITH D GP
122 E MARKET ST
WARRENSBURG, MO 64093
816-747-9156
LEDERER, CHAS M FP
P.O. BOX 518
WARRENSBURG, MO 64093
816-747-5711
MAXSON, THEODORE R A
220 E CULTON
WARRENSBURG, MD 64093
816-747-5114
NGO, QUAT T FP
JOHNSON COUNTY MEM HOSP.
WARRENSBURG, MO 64093
816-747-8415
RAGLAND, JERRY J GS
BOX 516
WARRENSBURG, MO 64093
816-747-7610
SICAT, ALFONSO V DRS
510 E GAY
WARRENSBURG, MO 64093
816-747-8161
*WESCOTT, THOMAS P GP
217 S. MARKET
HOLDEN, MD 64040
816-732-4311
WINDERS, RDBERT L GS
510 E. GAY ST.
WARRENSBURG, MO 64093
816-747-6118

115—LACLEDE

BEALER, LOUIS A GS
732 S MADISON
LEBANDN, MO 65536
417-532-9161
CARRINGTDN, HDWARD W GP
P. O. BOX 1142
LEBANDN, MD 65536
417-532-6151
CASTER, PHILIP W FP
P. O. BOX 1142
LEBANON, MO 65536
417-532-6151
*COURTER, GARY M GP
P. O. BOX 1142
LEBANDN, MO 65536
417-532-6151
GAPASIN, ERNESTO M GS
583 S. WASHINGTON
LEBANON, MO 65536
417-532-9171
HITE, DENNIS E FP
P. O. BOX 1142
LEBANDN, MD 65536
417-532-6151
KAMPSCHMIDT, DONALD L FP
HARWOOD CLINIC
LEBANDN, MO 65536
417-532-6151
SHERMAN, PHILIP A US
P. O. BOX 1142
LEBANON, MO 65536
417-532-6151

118—LAFAYETTE-RAY

BALDWIN, THEODORE R GP
1236 JESSE JAMES RD
EXCELSIOR SPRIN, MO 64024
816-637-5561
BEST, ROBT B EM
4300 W 111TH TER
SHAWNEE MISSIDN, KS 66211
913-649-1940
BLACKMAN, JACQUES D FP
P.O.BOX 419 1717 MAIN
HIGGINSVILLE, MD 64037
816-584-7751
BOYDSTON, CATHERINE O FP
107 S 2ND ST
ODESSA, MO 64076
816-633-5511
BOYDSTON, WYATT W FP
107 E 2ND ST
ODESSA, MO 64076
816-633-5511
BRADY, HUGH S GP
RR 1
CONCORDIA, MO 64020
816-463-2630
COOK, THOS B GP
802 E MAIN ST
RICHMOND, MD 64085
816-776-2201
COPE, JOS S GS
1110 1/2 MAIN STREET
LEXINGTON, MD 64067
816-259-2216
CRAYTON, BILLY G FP
BOX 41
WAVERLY, MO 64096
816-493-2211
DAVAULT, GEO K GP
MEDICAL CENTER
RICHMOND, MO 64085
816-776-2201
DE MOTTE, JEANNE M FP
HWY 13 SOUTH
P O BOX 68
RICHMOND, MO 64085
816-776-5654
GEORGE, THEODDRE GS
P O BOX 512
RICHMOND, MO 64085
816-776-5654
GILANI, ABDOLLAH GS
1312 LA CHATEAU
LIBERTY, MO 64068
816-776-6945
KELLING, JORDAN A GP
KELLING CLINIC-HOSP
WAVERLY, MO 64096
816-493-2211
KUANGPARICHAT, MANDCH IM
1205 N. JESSE JAMES RD.
EXCELSIOR SPGS., MO 64024
LA HUE, WILLIAM C GS
1901 SLEEPY HDLLOW DR
LEXINGTON, MO 64067
816-259-2747
LAI, HSIEN-ELL GP
1712 MAIN
HIGGINSVILLE, MO 64037
816-384-7300
LATIF, ASHAR IM
15TH & STATE AVE.
LEXINGTON, MO 64067
816-259-4386
MC FADDEN, GENE A GP
KELLING CLINIC
WAVERLY, MO 64096
816-493-2211
MEYER, JERRY L FP
834 MAIN ST
CONCORDIA, MD 64020
816-463-7966
NGUYEN, LAN K GS
KELLING CLINIC INC.
P.O. BOX 169
WAVERLY, MO 64096
816-493-2211
PAVLU, ROBT R GP
KELLING CLINIC HOSP
WAVERLY, MO 64096
816-493-2211

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* Doctor of Dsteopathy

PIDUTTI, RICHARO W FP
1114 MAIN ST.
LEXINGTON, MO 64067
816-259-2216
RILEY, CHAS T FP
220 HIGHWAY 13 SOUTH
RICHMONO, MO 64085
816-776-6945
UHRIG, JACK R IM
114 W. KELLING AVE.
WAVERLY, MO 64096
816-493-2211
VAJARANANT, MANIT OBG
1028 MAIN
LEXINGTON, MO 64067
816-259-2216
WARO, JOE W GP
1028 MAIN ST
LEXINGTON, MO 64067
816-259-2216
WILLIAMS, JOHN W OM
801 W 15TH
OAK GROVE, MO 64075
816-625-4772

120—LAKE OF THE OZARKS (Camden-Miller-Morgan-Counties)

BODIN, JEFFREY O IM
LAKE OF THE OZARKS GEN HOSP.
OSAGE BEACH, MO 65065
314-348-3342
BUEHLER, CARL T GP
6 S MAPLE ST
ELOON, MO 65026
COOPER, ROBERT W GP
LAKE RO. AA1
CAMOENTON, MO 65020
314-346-5656
OICKERSON, WILLIAM J IM
RT. 1, BOX 188-18
OSAGE BEACH, MO 65065
314-348-2723
EWING, CAROL T CLP
LAKE OF THE OZARKS GEN HOSP.
OSAGE BEACH, MO 65065
314-348-3181
FOTOPOULOS, CHRIS K GS
P O BOX 128
OSAGE BEACH, MO 65065
314-348-3060
GARRISON, THEOOORE W GP
P O BOX 356
CAMOENTON, MO 65020
314-348-3181
GUNN, JACK GP
P. O. BOX 160
VERSAILLES, MO 65084
314-378-4666
HAYOEN, MELVIN R GP
P. O. BOX 789
CAMOENTON, MO 65020
314-346-5624
HOLLEY, DONALO B GP
P. O. BOX 789
CAMOENTON, MO 65020
314-346-5624
KAUFFMAN, RUTH GP
P. O. BOX 160
VERSAILLES, MO 65084
314-378-4666
LYLE, ROBT R GP
P. O. BOX 160
VERSAILLES, MO 65084
314-378-4666
MOSELEY, OTIS O GP
BOX 248
OSAGE BEACH, MO 65065
314-348-2745
MURRAY, ROBERT G FP
HIGHWAY 7 EAST
CLIMAX SPRINGS, MO 65324
314-347-2350
O'CONNOR, EOWARO F OPH
P. O. BOX 277
VERSAILLES, MO 65084
314-378-5269
*OLOS, ROLLANO S FP
LAKE OZARK GENERAL HOSP.
OSAGE BEACH, MO 65065
PELEGRIN, ROBERT J U
P.O. BOX 128
OSAGE BEACH, MO 65065
314-348-3060
SMELTZER, FREOERICK M R
LAKE OF THE OZARKS HOSP.
OSAGE BEACH, MO 65065
314-348-3181
THARP, JUOITH L EM
RT 1, BOX 271-M
CAMDENTON, MO 65020
314-348-3181
TIETJEN, FREO O ORS
P. O. BOX 187
OSAGE BEACH, MO 65065
314-348-3181
VANOIVER, VIRGIL O AN
P. O. BOX 248
OSAGE BEACH, MO 65065
314-348-2745
WASHBURN, JOHN L GP
BOX 109 BANK BLDG
VERSAILLES, MO 65084
314-348-4203

130—MARION-RALLS-SHELBY

AHLUM, SANORA J OBG
P.O. BOX 311
HANNIBAL, MO 63401
314-221-5250
AVILA, ESTRELLA Z IM
110 MAGNOLIA AVE
HANNIBAL, MO 63401
314-221-7176
AVILA, PATRICIO C GS
110 MAGNOLIA AVE
HANNIBAL, MO 63401
314-221-7176
BACH, LYSLE M R
4209 W ELY RD
HANNIBAL, MO 63401
314-221-5500
BELL, ROBT M P
P. O. BOX 551
HANNIBAL, MO 63401
314-221-0414
BORROMEO, CARLOS J PO
603 COUNTRY CLUB DR
HANNIBAL, MO 63401
314-221-4368
BUBEN, ROBT W GS
2910 ST MARYS AVE
HANNIBAL, MO 63401
314-221-0996
BUKSTEIN, MICHAEL J GS
P.O.BOX 311
HANNIBAL, MO 63401
314-221-5250
BURNS, FRANCIS R OBG
TOWER PLAZA
CLINIC RD
HANNIBAL, MO 63401
314-221-2116
BURTON, OALE F GS
P O BOX 311
HANNIBAL, MO 63401
314-221-5250
CLISHAM, JOHN F U
P. O. BOX 127
HANNIBAL, MO 63401
314-221-2744
COMER, JULIAN R DR
RT. 3, BOX 147
NEW LONOON, MO 63459
314-221-5500
FLORENDO, FEOERICO N PTH
LEVERING HOSP
HANNIBAL, MO 63401
314-221-0826
FLORENOO, PURIFICACION T OBG
TOWER PLAZA-CLINIC RO
HANNIBAL, MO 63401
314-221-2116
FOREMAN, PHILLIP B GS
P O BOX 311
HANNIBAL, MO 63401
314-221-5250
GREENE, HARRY L CO
109 B VIRGINIA
HANNIBAL, MO 63401
314-221-0364
HA, RICHARO J IM
33 SATELLITE OR.
HANNIBAL, MO 63401
314-221-5250
HALL, STANLEY G PTH
SYCAMORE SPRING
RFD #2
HANNIBAL, MO 63401
314-221-5646
HAMLIN, WYETH IM
P. O. BOX 311
HANNIBAL, MO 63401
314-221-5250
*HEVEL, ROBERT W FP
197 GEMINI
HANNIBAL, MO 63401
314-769-2231
HINDS, ROY D AN
RT #3
HANNIBAL, MO 63401
314-221-2110
JAYANANDAIAH, HIREMATHAOA IM
4 BRIARWOOD
HANNIBAL, MO 63401
314-221-5250
JOHNSON, LENT C III FP
P.O. BOX 311
HANNIBAL, MO 63401
314-221-5250
KERKEMEYER, GEORGE IM
2910 ST. MARY'S AVE.
HANNIBAL, MO 63401
314-221-0996
KRUSE, CARL R FP
706 S OICKERSON ST
PALMYRA, MO 63461
314-769-2335
KWON, YONGSOO GS
STEAMBOAT CLINIC SHPG CTR.
102 STEAMBOAT BENO
HANNIBAL, MO 63401
314-248-1136
LICHTY, CHAS A GP
SHELBINA, MO 63468
314-588-4476
MANN, JAMES K PO
4074 HILLSIOE ORIVE
HANNIBAL, MO 63401
314-221-5250
MC HARDY, BRYSON R JR PO
P.O. BOX 311
HANNIBAL, MO 63401
314-221-5250
MEMKEN, JOHN A FP
2910 ST. MARYS AVE.
HANNIBAL, MO 63401
314-221-0996
PALMER, RUSSELL H GP
706 S OICKERSON ST
PALMYRA, MO 63461
314-769-2335
PLOWMAN, EOWARD M OPH
B ANO L BLOG
HANNIBAL, MO 63401
314-221-1585
*PORTER, EOWARD A GP
412 CENTER ST.
HANNIBAL, MO 63401
314-221-0056
RAPP, EARL L GP
BOX 311
HANNIBAL, MO 63401
314-221-5250
*RICE, WILLIAM E GP
400 N. MAIN
MONROE CITY, MO 63456
314-735-4541
ROLLER, MERRILL J GP
2910 ST MARY'S AVE
HANNIBAL, MO 63401
314-221-0996
RYAN, ROBERT S OBG
TOWER PLAZA
HANNIBAL, MO 63401
314-221-2116
STEELE, JAMES C OBG
2802 MARSH AVE
HANNIBAL, MO 63401
314-221-5250
STEINER, GREGORY E FP
120 MAIN ST.
LA GRANGE, MO 63448
WALLEY, LYNN J OBG
P.O. BOX 311
HANNIBAL, MO 63401
314-221-5250
WALTERSCHEID, JOHN H GP
1209 BROADWAY
HANNIBAL, MO 63401
314-221-4910

135—MID-MISSOURI (Phelps-Crawford-Dent-Pulaski-Maries Counties)

BARTLETT, HUGH C GP
1100 W 10TH ST
ROLLA, MO 65401
314-364-6051
BASS, BARRY J GS
4TH & MAIN
SALEM, MO 65560
BASS, JAMES J EM
4TH & MAIN
SALEM, MO 65560
314-364-7107
BAUMANN, ALBERT R GP
STEELVILLE, MO 65565
314-775-2119
BHATI, DEO K GS
404 W. ROLLA ST.
SALEM, MO 65560
314-729-3129
BRAOLEY, WM B PD
ROLLA REGIONAL CTR FOR M.R.
ROLLA, MO 65401
314-364-5510
BREEOEN, RICHARO L N
SUITE 120 1100 W. 10TH
ROLLA, MO 65401
314-364-4226
BUTTS, JAMES D GP
100 ADRIAN
ROLLA, MO 65401
314-364-4356
CRAIG, HERBERT W ORS
1100 W. 10TH ST.
ROLLA, MO 65401
314-341-2678
DEAROEUFF, OWIGHT L IM
11 & BISHOP
ROLLA, MO 65401
314-364-1322

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* Doctor of Osteopathy.

DEBOARD, JAMES W AN
1000 W. TEN STREET
ROLLA, MO 65401
314-364-3100
DRAKE, AVERY A OPH
4357 N 106TH AVE
PHOENIX, AZ 85039
DRAPER, BERNARD L OBG
1100 W 10TH ST
ROLLA, MO 65401
314-364-6700
ELDERS, FRANK A GP
RT 1 BOX 69A
CUBA, MO 65453
314-885-2311
FEIND, EARL E GP
BOX B
ROLLA, MO 65401
314-364-4226
FELTS, JAMES A FP
1100 W. 10TH ST.
ROLLA, MO 65401
314-364-4226
FORTIN, JORGE A OBG
1100 W. TENTH ST.
ROLLA, MO 65401
314-364-8100
GOYETTE, RICHERT E CLP
1000 W 10TH ST.
ROLLA, MO 65401
314-364-5060
GRANNEMANN, H. NEAL PTH
1000 W 10TH ST
ROLLA, MO 65401
314-364-5060
HAMMLER, CHRISTIANA V GP
PHELPS COUNTY HOSP
ROLLA, MO 65401
HEILBRUNN, ILSE OS
1203B FORUM
ROLLA, MO 65401
314-341-2800
HOOSHMAND, AHMAD N
915 SW BLVD. SUITE E
JEFFERSON CITY, MO 65101
314-634-4700
HUSS, RANDALL D FP
1100 W. 10TH ST.
ROLLA, MO 65401
314-238-2725
JENKINS, EDWARD R FP
ROUBIDOUX MEDICAL PARK
WAYNESVILLE, MO 65583
314-774-6423
KHAN, MOHAMMED V.H. IM
9939 AFFTON PLACE
ST. LOUIS, MO 63123
314-638-3136
LINDE, JOHN W OPH
1100 W. TENTH ST.
ROLLA, MO 65401
314-341-2230
MARTI, LARRY B ORS
1100 W 10TH ST
ROLLA, MO 65401
314-341-2678
MATSUDA, GORDON T U
1100 W. 10TH ST.
ROLLA, MO 65401
314-364-3535
MITCHELL, ROY E GP
RT. 5, BOX 36
SALEM, MO 65560
314-729-3252
MYERS, JAMES M GP
P.O. DRAWER D
ROLLA, MO 65401
314-341-4284
PASKON, SETH IM
3RD JACKSON
SALEM, MO 65560
314-729-6036
POJANASOMBOON, PICHAT OPH
1100 W 10TH ST
ROLLA, MO 65401
314-364-5600
RUSSELL, BARBARA E PD
11TH AND BISHOP
ROLLA, MO 65401
314-364-4870
SAUNDERS, CAROL S PD
C/O RUSSELL YOUNG CLINI
11TH AND BISHOP ST
ROLLA, MO 65401
314-364-4870
SLAHOREK, GEORGE J PTH
GEN LEONARD WOOD ARMY H
PATHOLOGY DEPT
FORT LEONARD WO, MO 65473
314-368-9661
SMITH, TED P FP
S&S ACRES ROUTE 2
ROLLA, MO 65401
314-364-4226
SPURRIER, MARK H GP
BOX 777
RICHLAND, MO 65556
314-765-5141
STRICKER, EAMIL A GS
10TH & BISHOP
ROLLA, MO 65401
314-364-3599
TANG, TEODORO GS
303 W. THIRD ST.
SALEM, MO 65560
314-729-6800
THEOBALD, STERLING FP
1520 MARKET STREET
ST. LOUIS, MO 63103
VAN HOOK, DAVID M DR
US GEN LEONARD WOOD ARMY HOS
FT LEONARD WOOD, MO 65473
314-368-9571
VILELA, OSWALDO E OBG
909 S. PERSHING
SALEM, MO 65560
314-729-3194
WHITE, EUGENE F OBG
1100 W TENTH ST.
ROLLA, MO 65401
314-364-8100
WIENCH, DELANE F PTH
1000 WEST 10TH ST
ROLLA, MO 65401
314-364-5060
YOUNG, ROBT B FP
700 W 11TH ST
ROLLA, MO 65401
314-364-4870

138—MINERAL AREA (St. Francois-Iron-Madison-Washington-Reynolds-Bollinger Counties)

APPLEBERRY, CHAS H P
43 ST. JOE ST.
FLAT RIVER, MO 63601
314-431-3422
BENTINGANAN, VICTOR D GS
703 W MAIN STREET
FREDERICKTOWN, MO 63645
314-783-7249
CANCELADA, JUAN V OBG
323 NORTH "A" STREET
FARMINGTON, MO 63640
314-756-6751
CARLETON, CHAS E GP
MED ARTS CLINIC
FARMINGTON, MO 63640
314-756-6751
CHASTAIN, CHAS W FP
FAMILY HEALTH CARE
815 E. MAIN ST.
FLAT RIVER, MO 63601
314-431-6600
DAVIS, THOMAS N P
STATE HOSPITAL
FARMINGTON, MO 63640
314-756-6792
DENNIS, WM P GP
1000 N MAIN ST
DESLOGE, MO 63601
314-431-4414
DENT, GEORGE W OBG
MEDICAL ARTS CLINIC
301 WEST LIBERTY
FARMINGTON, MO 63640
314-756-6751
DETTMER, ROBT F GP
128 W RUSSELL
IRONTON, MO 63650
314-546-2415
DIERKER, HARRY D FP
301 W LIBERTY ST
FARMINGTON, MO 63640
314-756-6751
DURST, EDWARD F GS
301 W. LIBERTY
FARMINGTON, MO 63640
ELLEGOOD, JAMES H GP
703 W MAIN
FREDERICKTOWN, MO 63645
314-783-3323
FARMER, NORMA D P
15 WESTMOUNT DR.
FARMINGTON, MO 63640
314-756-7803
GEORGE, P A IM
703 WEST MAIN
FREDERICKTOWN, MO 63645
314-783-5548
GRAY, WALTER C GP
301 W LIBERTY
FARMINGTON, MO 63640
314-756-6751
GRIFFIN, DARRELL L D
503 POTOSI
FARMINGTON, MO 63640
314-756-8908
HARDY, STANTON L FP
1000 N MAIN ST
DESLOGE, MO 63601
314-431-3128
HARTMANN, THOMAS G FP
301 W. LIBERTY
FARMINGTON, MO 63640
314-756-6751
HOCTOR, EMMETT F P
STATE HOSP NO 4
FARMINGTON, MO 63640
314-756-6792
HUCKSTEP, ROBT A IM
301 W LIBERTY ST
FARMINGTON, MO 63640
314-756-6751
KARRAKER, ALVAN G GP
301 W LIBERTY ST
MEDICAL ARTS CLINIC
FARMINGTON, MO 63640
314-756-6751
KIM, LONGIUS H GS
2 PROFESSIONAL BUILDING
200 HENRY BUB DR
POTOSI, MO 63664
314-438-6285
KIM, YOUNG R FP
FARMINGTON STATE HOSPITAL
FARMINGTON, MO 63640
314-756-6792
MANUSMARE, USHA P GP
FARMINGTON STATE HOSPITAL
FARMINGTON, MO 63640
314-756-6792
MC KINNEY, WILLIAM D JR. FP
202 W RUSSELL
IRONTON, MO 63650
314-546-7311
MENNE, MARVIN C GP
109 N. MAIN ST.
IRONTON, MO 63650
314-546-7437
MULLEN, JACK IM
30 N ALLEN ST
BONNE TERRE, MO 63628
314-358-3343
NEUKOM, GEO B P
1528 NORTH 7TH ST.
TERRE HAUTE, IN 47807
NEWCOMB, ARTHUR D US
515 S. MAIN
FREDERICKTOWN, MO 63645
417-358-4899
OLIVER, GEO A GS
MEDICAL ARTS CLINIC
FARMINGTON, MO 63640
314-756-6751
PARKER, GARY J IM
301 W. LIBERTY ST.
FARMINGTON, MO 63640
314-756-6751
PICHARDO, JAVIER A P
701 EASTBRIDGE DR.
ST. PETERS, MO 63376
SERMCHIEF, CHAIYARAT OBG
703 W MAIN
FREDERICKTOWN, MO 63645
314-783-5529
SIMPELO, RUSTICO V GS
AUSTIN PLAZA
POTOSI, MO 63664
314-438-5408
STALEY, DAVID L FP
CARROLL COUNTY MEM HOSP.
CARROLLTON, MO 64633
816-542-0011
TAYLOR, VAN W GS
54 CHURCH ST
BONNE TERRE, MO 63628
314-358-3474
TUTTLE, JAY F P
421 HICKORY GLEN LANE
ST LOUIS, MO 63141
314-434-7254
WATKINS, GEO L GS
BOX 1745
RANCHO SANTA FE, CA 92067

142—MONITEAU

FULKS, RICHARD B GP
BOX 410
CALIFORNIA, MO 65018
314-796-2523
GALLAGHER, LIONEL M GP
102-A DAHLER ST
CALIFORNIA, MO 65018
314-796-3312
LATHAM, KENYON S GP
109 N HIGH
CALIFORNIA, MO 65018
314-796-2541

146—MONTGOMERY

BYLAND, SAML J GP
120 HUDSON ST
WELLSVILLE, MO 63384
314-684-2208

158—NORTHWEST (Nodaway-Holt-Atchison-Gentry-Worth Counties)

BARE, EOWARO F GP
102 S 6TH
TARKIO, MO 64491
816-736-4193
BAUMAN, HENRY C GP
929 WEST 3RO
MARYVILLE, MO 64468
816-582-2742
BYLANO, BENJ F GS
P O BOX C
MARYVILLE, MO 64468
816-582-2156
CARLIN, ALBERT L GP
PARK AVE
STANBERRY, MO 64489
CARPENTER, WALLACE GP
100 CASS ST
ROCK PORT, MO 64482
816-744-5361
DEAN, WALTER E FP
HIGHWAY 71 SOUTH
MARYVILLE, MO 64468
816-582-2153
OIZNEY, DESMION M FP
NW MO ST UNIV-COLBERT H
MARYVILLE, MO 64468
816-582-7141
OUNOEE, JOHN T R
ST FRANCIS HOSPITAL
MARYVILLE, MO 64468
816-582-8152
OUNSHEE, ROBT E FP
406 1/2 NORTH MAIN STRE
MARYVILLE, MO 64468
816-582-4571
HARR, PATRICK B FP
HIGHWAY 71 S
MARYVILLE, MO 64468
816-582-2153
HAVALOAR, KANTI L IM
HWY 71 SPO BOX C
MARYVILLE, MO 64468
816-582-2156
HUMPHREY, JAMES O FP
MOUNO CITY, MO 64470
816-442-5433
HUNTER, JAMES K JR FP
HIGH & MAIN
FAIRFAX, MO 64446
816-686-2276
IMES, ELVIN O FP
P.O. BOX 188
BULL SHOALS, AR 72619
JEFFERIS, KENNETH R GS
P.O. BOX 349
MARYVILLE, MO 64468
816-582-2153
MATTESON, FRANK B GP
21 W 3RO ST
GRANT CITY, MO 64456
816-564-3323
NIEOERMEYER, EDWARO L GP
305 BROAO ST
TARKIO, MO 64491
816-736-4121
RUNEZ, MANUEL W GS
BOX 100
MARYVILLE, MO 64468
417-967-4189
TENORIO, ARTURO A GS
MAIN & WILLOW STREETS
STANBERRY,, MO 64489
816-783-2735
TENORIO, GENOVEVA P
HWY 136-E PHYSICIANS BLDG
ALBANY, MO 64402
816-726-3974
WANAMAKER, JOHN M GP
110 MILL ST W
ROCK PORT, MO 64482
816-744-5454
WEMPE, GEO R FP
P O BOX C
MARYVILLE, MO 64468
816-582-2156
WURM, MICHAEL J FP
P.O. BOX 349
MARYVILLE, MO 64468
816-582-2153

162—NORTH CENTRAL (Adair-Schuyler-Knox-Sullivan-Putnam Counties

ENGLISH, MILTON T ORS
600 S BALTIMORE
KIRKSVILLE, MO 63501
816-665-5611
PHILLIPS, RONALD L FP
600 S. BALTIMORE
KIRKSVILLE, MO 63501
816-665-5611
TARVYDAS, FRANCIS US
EDINA, MO 63537

166—OZARKS (Barry-Lawrence-Christian-Newton-McDonald Counties)

ANDERSON, PAUL B GP
113 W HICKORY
NEOSHO, MO 64850
417-451-1234
APOSTOL, ANORES G GS
801 LINCOLN ST
MONETT, MO 65708
417-235-6297
BETZ, RICHARD J IM
SALE MEM HOSP
NEOSHO, MO 64850
417-451-1234
BETZ, ROBERT F GS
113 WEST HICKORY
NEOSHO, MO 64850
417-451-1234
BIZEK, J L GS
550 HUOSON AVE.
AURORA, MO 65605
417-678-5175
BLANKENSHIP, GEO W GP
ROUTE #6 BOX 385
NEOSHO, MO 64850
417-451-1234
BOWMAN, MELVIN C GP
ORAWER 100
NEOSHO, MO 64850
417-451-1155
BROWN, FREOERICK B GP
AURORA MEOICAL BUILDING
550 HUOSON AVE.
AURORA, MO 65605
417-678-5176
CAMPBELL, OANIEL C TS
STATE CHEST HOSPITAL
MOUNT VERNON, MO 65712
417-466-3711
CARTER, JAMES R GS
113 W HICKORY ST
NEOSHO, MO 64850
417-451-1234
CHRISTIANSON, CHAS S PUD
ROUTE 1
BOX 85
MOUNT VERNON, MO 65712
417-466-3400
CRUZ, SERGIO G IM
ST VINCENT HOSP
801 LINCOLN
MONETT, MO 65708
417-235-7824
OABBS, WILBUR O GP
SALE MEM HOSP
NEOSHO, MO 64850
417-451-1234
DONLEY, ROBT R GP
5416 CHAPPELFORO LANE
SHREWSBURY, MO 63119
EOWAROS, FRANCIS L IM
P.O. BOX 230
MONETT, MO 65708
417-235-8080
ESPARRAGO, F R GS
808 EUCLID
MONETT, MO 65708
417-235-3137
GALINSKY, LEON J PUO
3019 N. EASTGATE OR.
MCCORMICK PLACE II
TUCSON, AZ 85712
GARONER, JOS W GP
RT. 5, BOX 303
8 WALNUT LANE
KIMBERLING CITY, MO 65686
417-739-4418
GLASS, WM J GP
402 GRANO
MONETT, MO 65708
417-235-7448
GLOVER, KENNETH GP
207 S MARKET ST
MOUNT VERNON, MO 65712
417-466-2323
GUOAPATI, RAO R IM
500 A PORTER
AURORA, MO 65605
417-678-3507
HALVERSON, LARRY W FP
AURORA MEDICAL BUILOING
550 HUDSON AVE.
AURORA, MO 65605
417-678-5176
HAMILTON, WM P GP
1321 S. ELLIOTT
AURORA, MO 65605
417-678-5194
HELLWEG, CHAS E PUO
PIERCE CITY, MO 65723
417-476-2816
HUNTINGTON, IONE PUD
P. O. BOX 158
SHELL KNOB, MO 65747
417-858-6869
KENNEY, ROY E GP
113 W HICKORY
NEOSHO, MO 64850
417-451-1234
KERR, FRANK T GP
511 W CLEVELAND
MONETT, MO 65708
417-235-5546
LENTZ, HAROLO C GP
113 WEST HICKORY ST.
NEOSHO, MO 64850
417-451-1234
MC FARLAND, ROONEY J FP
113 HICKORY
NEOSHO, MO 64850
417-451-1234
MC MILLAN, DAVID L IM
113 WEST HICKORY
NEOSHO, MO 64850
417-451-1234
MONTELLANO, ARTURO H OBG
808 EUCLIO
MONETT, MO 65708
417-235-6086
MORRISON, THOS A GP
203 WASHINGTON
AURORA, MO 65605
417-678-3225
NEWMAN, MARY J GP
P O ORAWER H
CASSVILLE, MO 65625
OCCENO, VICTOR G GS
808 EUCLIO
MONETT, MO 65708
417-235-6007
OLIVE, GEO C A
113 W HICKORY ST
NEOSHO, MO 64850
417-451-1234
SAROJONO, HERMAN IM
88 GRAVEL ST.
CASSVILLE, MO 65625
417-847-4300
TAYLOR, LEO T AM
P O BOX 249
NEOSHO, MO 64850
417-451-1114
WATTS, SAMUEL M III FP
AURORA MEOICAL BLOG.
550 HUOSON
AURORA, MO 65605
417-678-5176
WHITE, RUSSELL O FP
AURORA MEDICAL BUILOING
550 HUOSON AVE.
AURORA, MO 65605
417-678-5176
WILLIAMS, JAMES R R
500 PROTER ST.
AURORA, MO 65605

170—PEMISCOT

BERNARO, JAMES W GP
DOCTORS CLINIC BOX 201
CARUTHERSVILLE, MO 63830
314-333-1782
GRABLE, JAMES O GP
203 E 3RO ST
PORTAGEVILLE, MO 63873
314-379-5232
GUBIN, ALAN S PO
106 W 12TH ST
CARUTHERSVILLE, MD 63830
314-333-1782
HAZEL, JAMES G JR R
PEMISCOT CO MEO. CTR.
HAYTI, MO 63851
314-333-0707
LOPEZ, RUBEN E GP
216 SO. FOURTH ST.
HAYTI, MO 63851
359-1306
MC COY, WARREN R GP
1117 WARO AVE
CARUTHERSVILLE, MO 63830
314-333-2711
PAINTER, ANDREW E GP
204 E. 3RD ST.
PORTAGEVILLE, MO 63873
314-379-5467
PAINTER, LATTIE B GP
204 E 3RD ST
PORTAGEVILLE, MO 63873
314-379-5467
SHIREY, ARNOLD G GP
200 S 4TH ST
HAYTI, MO 63851
314-359-0295

174—PERRY-ST. GENEVIEVE

CARRON, OSCAR A OS
208 N. WATERS
PERRYVILLE, MO 63775
314-547-4214

DE GENDVA, GERARD H GP
HOSPITAL LANE
CENTER ORIVE
STE GENEVIEVE, MO 63670
314-883-2782
EUGENIO, RDMED R PO
PERRY PLAZA
PERRYVILLE, MO 63775
314-547-8326
FAIRCHILD, JAMES F GP
12 S JACKSDN
PERRYVILLE, MD 63775
314-547-2553
FELTZ, LAWRENCE W GP
PERRY PLAZA MEO CENTER
PERRYVILLE, MD 63775
314-547-4585
FISCHER, THEODORE IM
P O BDX 146
ALTENBURG, MO 63732
314-824-5259
GDNZALES, JOSE H U
PERRY PLAZA MEOICAL CEN
PERRYVILLE, MO 63775
314-547-1231
HAMIO, SAID S PD
PDINTE BASSE PLAZA
ST. GENEVIEVE, MO 63670
,314-883-7274
HOWITT, WILLIAM J GP
12 S. JACKSDN
PERRYVILLE, MO 63775
314-547-6561
HDYE, ROBERT C GS
149 M POINTE BASSE PLAZ
STE GENEVIEVE, MD 63670
314-883-5717
LIMPIPHIPHATN, OHAJPHONG GS
PERRY PLAZA MED CTR
PERRYVILLE, MO 63775
314-547-8321
LIMPIPHIPHATN, ESTER P PD
PERRY PLAZA MED CTR
PERRYVILLE, MD 63775
314-547-8321
LUTKEWITTE, JDS F GP
HOSPITAL LANE & CENTER OR.
STE GENEVIEVE, MD 63670
314-883-2782
MC OERMOTT, ALFREO E GP
1104 W. REODICK ST.
PERRYVILLE, MD 63775
314-547-2516
MEORANO, CRESENCIAND A OBG
720 DDRDTHY STREET
PERRYVILLE, MO 63775
314-547-1497
MEORAND, LINA E IM
720 DORDTHY STREET
PERRYVILLE, MO 63775
314-547-1497
PDNTILLAS, JOB B GS
PERRY PLAZA MEO. CTR.
PERRYVILLE, MD 63775
314-547-8219
RAJU, NIRANJANA IM
990 PARK DR.
STE. GENEVIEVE, MO 63670
314-883-7474
UTTERMAN, WM F GS
LAKE FOREST ESTATES
STE GENEVIEVE, MD 63670
314-883-2800
YANG, JDHN S DBG
POINTE BASSE PLAZA MALL
STE. GENEVIEVE, MO 63670
314-883-5715

178—PETTIS

AOKINS, EDWARD E FP
1718 S. INGRAM
SEDALIA, MD 65301
816-827-2425
ALLCDRN, DONALD J FP
1700 E. BROADWAY
SEDALIA, MD 65301
816-826-1200
AZAN, ABRAHAM N OBG
1718 S. INGRAM
SEDALIA, MO 65301
816-826-1381
AZAN, KENNETH N IM
1718 SOUTH INGRAM
SEDALIA, MO 65301
816-827-2526
BLOCK, JERDME E IM
3804 HARRISDN
KANSAS CITY, MO 64109
816-474-4100
BLUHM, JOHN F III O
1718 S. INGRAM
SEDALIA, MO 65301
816-827-2034
BRAZDS, JOHN C U
RR #6
SEDALIA, MD 65301
816-827-0031
CAMPBELL, ALBERT J GP
625 E 13TH ST
SEDALIA, MO 65301
816-826-8989
CDLE, WM R GS
RT 1
SMITHTON, MO 65350
816-827-2401
DAUM, HAROLO F R
RTE 1
SEOALIA, MO 65301
816-827-0880
EDMONDS, RDBT W PO
1718 S INGRAM
SEOALIA, MO 65301
816-827-0500
EOWARDS, DAVIO R GP
700 S LIMIT AVE
SEOALIA, MO 65301
816-826-7866
ELDENBURG, DONALO O GP
700 S LIMIT
SEDALIA, MD 65301
816-826-7300
FARKAS, JAMES R R
BOTHWELL MEMORIAL HOSPI
RAOIDLOGY OEPT
SEOALIA, MO 65301
816-826-8833
FISHER, STANLEY O GP
1313 W. 16TH ST.
SEDALIA, MO 65301
816-826-3434
FRANK, GAEL R DRS
1718 SOUTH INGRAM
SEDALIA, MD 65301
816-827-0505
HARTMAN, RDDNEY C OR
644 E. 13TH ST.
BOTHWELL MEM. HOSP.
SEDALIA, MO 65301
816-826-8833
HDPKINS, THDMAS S IM
1704 S INGRAM
SEOALIA, MO 65301
816-826-0826
HOPKINS, THDS J GP
700 S LIMIT ST
SEDALIA, MO 65301
816-826-7300
HOROCHOWSKY, ALEJANDRO GS
1704 SOUTH INGRAM
SEDALIA, MD 65301
816-826-5950
LAMY, JDHN E GS
400 OAL-WHI-MD COURT
SEDALIA, MD 65301
816-826-4872
LEPKOWSKI, MAREK B U
600 E. 13 STREET
SEOALIA, MD 65301
816-827-0031
LOWE, ALVIN L GP
621 W 16TH
SEDALIA, MO 65301
816-826-3265
MAODOX, ALBERT R FP
509 W. JDHNSON
SEOALIA, MO 65301
816-826-3145
OWENS, JDHN H PTH
BOTHWELL MEMORIAL HOSPI
SEOALIA, MO 65301
816-826-7212
PRDCTOR, DONALO C GP
700 S LIMIT ST
SEDALIA, MO 65301
816-826-7300
ROMAN, VINCENT T FP
204 RUBY ST.
SWEET SPRINGS, MD 65351
816-335-6326
STAUFFACHER, C G FP
1313 W. BROAOWAY
SEDALIA, MD 65301
816-826-4433
STOCKWOOD, ROBT C DBG
1718 S INGRAM
SEDALIA, MD 65301
816-826-1381
SULL, WON-JDNG GS
1501 SOUTH GRANO
SEDALIA, MO 65301
816-827-2330
VAN DYKE, ELMER H DBG
1718 S INGRAM
SEDALIA, MO 65301
816-826-1381
WOOLERY, WILLIAM G IM
1718 S. INGRAM
SEDALIA, MO 65301
WORLEY, CHAS A GP
204 RUBY ST
SWEET SPRINGS, MO 65351
816-335-6326

186—PIKE

GLENN, EDWARD A GS
RR 1
LOUISIANA, MO 63353
314-754-5555
LEWELLEN, CHAS H GP
120 PROFESSIONAL BLDG
LOUISIANA, MO 63353
314-754-4401
MARTIN, WENDELL J GP
211 S 3RD ST
LOUISIANA, MD 63353
314-754-5555
MIDDLETDN, JOHN W FP
301A GEORGIA ST
LDUISIANA, MO 63353
314-754-5555
PITNEY, PHILLIP W FP
211 S 3RO
LDUISIANA, MO 63353
314-754-5555
STUERMAN, LAWRENCE G FP
211 S 3RO ST
LOUISIANA, MD 63353
314-754-5555

189—ST. CHARLES-LINCOLN

ALTMAN, MARTIN P GE
2850 W CLAY ST
ST CHARLES, MD 63301
314-724-1940
ALUL, MDHAMMAO-ALI H PD
1650 BDDNSLICK
ST CHARLES, MO 63301
314-723-1711
BAGWE, RANJIT M CO
1301 BOONSLICK
ST CHARLES, MO 63301
314-724-6700
BAIRD, KEIM L P
2860 W CLAY ST
ST CHARLES, MO 63301
314-946-5844
CABRERA, TDMAS V GS
6 JUNGERMANN CT.
SUITE 109
ST PETERS, MD 63376
314-447-6340
CANALE, JOHN P P
1 WESTBURY SQ.
BLDG. C
ST. CHARLES, MD 63301
314-946-8810
CANNON, RICHARO E PDA
12 WESTBURY
ST. CHARLES, MD 63301
314-723-7333
CANTY, EUGENE J IM
114 N MAIN ST
ST CHARLES, MO 63301
314-724-0692
CARPENTER, JAMES L U
2 WESTBURY ROOM 6
ST CHARLES, MD 63301
314-723-4590
CLEVER, HENRY W PO
1301 BOONSLICK RO
ST CHARLES, MD 63301
314-723-0511
CLEVER, VICTDR G OPH
1005 FAIRGROUNDS
ST CHARLES, MO 63301
314-946-6986
CDMMERFORD, JDHN F GP
1301 BODNSLICK RO
ST CHARLES, MO 63301
314-724-6700
CONNELLY, MICHAEL W OPH
#18 HUNTLEIGH DOWNS
ST LDUIS, MO 63131
314-946-6986
CONOYER, J. MICHAEL OTO
6 JUNGERMANN CIR-SUITE 102
ST. PETERS, MO 63376
314-447-3100
CURRY, MICHAEL J IM
2850 W CLAY ST
ST CHARLES, MO 63301
314-724-1940
CUSWDRTH, RDBERT GE
1301 BOONSLICK
ST. CHARLES, MO 63301
314-723-2555
DAMRON, EDWARD O GP
309 GRIFFIN ST
ELSBERRY, MO 63343
314-898-5450
OEL PIZZO, FEROINANO OBG
1301 BOONSLICK
ST CHARLES, MO 63301
314-723-4143
DESAI, RAVINORA S OTO
1650 BOONSLICK RO
ST CHARLES, MO 63301
314-724-6873
OI FILIPPO, EMIL A ORS
2633 WEST CLAY ST.
ST CHARLES, MO 63301
314-946-7050
DIETERICH, RUSSELL OBG
1600 HERITAGE LANOING
SUITE 203
ST CHARLES, MO 63301
314-447-6441

DU MONTIER, RENE J GP
P. O. BOX 8
203 CHURCH ST.
O'FALLON, MO 63366
314-272-3655

DULING, GERALD J PD
ST JOSEPH HOSPITAL
THIRD ST & FIRST CAP
ST CHARLES, MO 63301
314-724-2810

DUNCAN, DAVID T OBG
2 WESTBURY DR
ST CHARLES, MO 63301
314-925-2222

FAJATIN, ROMULO J IM
#2 WESTBURY
ST. CHARLES, MO 63301
314-946-9130

FLEMING, ROBT J OPH
1005 FAIRGROUNDS
ST CHARLES, MO 63301
314-724-7116

FLOERCHINGER, JAMES S OPH
ST CHARLES CLINIC
ST CHARLES, MO 63301

FRIESEN, RANDALL G OBG
1301 BOONSLICK
ST. CHARLES, MO 63301
314-723-4143

GOLDKAMP, JOHN D PO
2 WESTBURY
ST CHARLES, MO 63301
314-723-2525

GORE, GLENN L OBG
1650 BOONSLICK RD
ST CHARLES, MO 63301
314-723-6900

HARRINGTON, MICHAEL GS
#2 WESTBURY
ST. CHARLES, MO 63301
314-724-6633

*JONES, JAMES E GP
418 S. CHURCH
P.O. BOX 10
ST. PETERS, MO 63376
314-278-6578

JONES, VICTOR T R
1301 BOONSLICK
ST. CHARLES, MO 63301
314-863-1888

KAMADA, TSUTOMU GS
1001 HWY K SUITE 2
O'FALLON MED. CTR.
O'FALLON, MO 63366
314-272-5454

KEEFE, DAVID M PO
#2 WESTBURY DRIVE
ST CHARLES, MO 63301
314-723-2525

KEESAL, DENNIS EM
300 FIRST CAPITOL DR.
ST. CHARLES, MO 63301
314-724-2810

KELLER, ROBT M GP
712 PARR DR.
WENTZVILLE, MO 63385
314-327-4120

KEOHANE, MARK ORS
2633 W. CLAY ST.
ST CHARLES, MO 63301
314-946-7050

KINGSBURY, ROBT J GS
222 S 2ND ST
ST CHARLES, MO 63301
314-724-0101

KISTER, GEO E GP
236 THOMAS ST
ST CHARLES, MO 63301

LAMB, EILEEN IM
1301 BOONSLICK DR.
ST. CHARLES, MO 63301
314-724-6700

LINSENMEYER, CHARLES M ORS
2633 W. CLAY ST.
ST CHARLES, MO 63301
314-946-7050

LISSNER, A. BART PS
#6 JUNGERMANN CIRCLE
ST. PETERS, MO 63376
314-355-5333

MARRS, DAVID B D
133 S. SEVENTH ST.
ST. CHARLES, MO 63301
314-454-2641

MELTZ, GARY J IM
1301 BOONSLICK
ST. CHARLES, MO 63301
314-724-6700

MEMON, ABDUL M IM
213 E. BOONESLICK RD.
WARRENTON, MO 63383
314-456-3413

MENTEL, JOHN J IM
6 JUNGERMANN CIRCLE
SUITE 103
ST. PETERS, MO 63376
314-441-7955

MEYERS, JERRY R GS
222 SOUTH SECOND ST
ST CHARLES, MO 63301
314-724-0101

MILES, WAYNE B A
2850 W CLAY
ST CHARLES, MO 63301
314-946-8355

MINKOFF, I. MONICA HEM
#6 JUNGERMANN CIRCLE
ST PETERS, MO 63376
314-441-9393

MOHAPATRA, RAJ N U
ST. PETER MED CTR SUITE 109
6 JUNGERMAN CIRCLE
ST. PETER, MO 63376
314-723-6181

MUENSTER, VINCENT P GS
2850 W CLAY ST
ST CHARLES, MO 63301
314-724-1940

MUHM, HARVARD Y GS
1301 BOONSLICK
ST CHARLES, MO 63301
314-723-1144

OBANDO, FRANCISCO J GP
TROY, MO 63379
314-528-8595

OLSON, RICHARD D GS
2850 W CLAY ST
ST CHARLES, MO 63301
314-724-1940

PERLMUTTER, JOHN C OPH
2860 W. CLAY ST.
ST. CHARLES, MO 63301
314-724-6880

PERNA, VINCENT P PTH
11636 ADMINISTRATOR DR
CREVE COEUR, MO 63141
314-567-3905

PIPER, TERRENCE L ORS
#6 JUNGERMANN CIR.
ST. PETERS, MO 63376
314-447-3444

POGGEMEIER, WM H FP
120 FIRST CAPITOL DR.
ST CHARLES, MO 63301
314-724-6336

RAHMAN, MOHAMMED H PO
1055 DAUTEL LANE
ST. LOUIS, MO 63141
314-928-1232

REISA, RONALD C OBG
2 WESTBURY
ST CHARLES, MO 63301
314-946-6626

ROTER, ALEXANDER M OBG
2 WESTBURY DR
ST CHARLES, MO 63301
314-946-5002

ROTHER, PAUL H IM
1301 BOONSLICK RD
ST CHARLES, MO 63301
314-724-6700

ROXAS, GENEROSO P IM
533 JEFFERSON STREET
ST. CHARLES, MO 63301
314-723-5116

SCHLANSKY, HOWARD J PO
1600 HERITAGE LANDING
ST. CHARLES, MO 63301
314-441-5437

SCHNEIDER, THOS A GS
2850 W CLAY
ST CHARLES, MO 63301
314-724-1940

SCHUETZ, ALFRED IM
1301 BOONSLICK
ST CHARLES, MO 63301
314-724-6700

*SILL, WILLIAM FP
#6 JUNGERMANN CIRCLE
SUITE 101
ST PETERS, MO 63376
314-447-6050

SMOLLER, MARTIN B IM
14 COLONIAL HILL PKWY
ST LOUIS, MO 63141
314-724-1940

SOUCY, JOHN C IM
2850 W CLAY ST
ST CHARLES, MO 63301
314-724-1940

STEIMAN, BARRY OBG
11636 CHIEFTAIN
CREVE COEUR, MO 63141
314-724-1940

STUFFLEBAM, BRIAN W IM
6 JUNGERMANN CIRCLE
SUITE 201
ST. PETERS, MO 63376
314-724-1940

SUAREZ-SOLAR, PEDRO L P
1360 S 5TH ST SUITE 270
ST CHARLES, MO 63301
314-946-6991

TASSI, ALBERT A GS
601 INDIAN HILLS
ST CHARLES, MO 63301
314-723-4466

TEJERO, JONAS S IM
547 FIRST CAPITOL DR
ST CHARLES, MO 63301
314-723-4600

THIELE, OTTO K GS
2 WESTBURY
ST CHARLES, MO 63301
314-724-6633

UHLEMANN, JOHN H O
1301 BOONSLICK
ST CHARLES, MO 63301
314-724-6700

UMAR, IBRAHIM S PO
4200 N. CLOVERLEAF
SUITE A
ST. CHARLES, MO 63301
314-922-9182

VART, GARY R OBG
1650 BOONSLICK
ST CHARLES, MO 63301
314-724-5300

VIAMONTES, GLORIA E CHP
777 S NEW BALLAS RD.
ST. LOUIS, MO 63141
314-946-6991

WALSH, MARTIN J IM
15 WARWICK CT.
ST. CHARLES, MO 63301
314-724-1940

WESTERFELD, ROY A PO
1301 BOONSLICK
ST CHARLES, MO 63301
314-723-0511

WILLMAN, MARTIN L OTO
2860 W CLAY
ST CHARLES, MO 63301
314-946-0821

WIPFLER, EARL J GS
222 S SECOND
ST CHARLES, MO 63301
314-724-0101

YAEGER, GERALD A GP
2444 W CLAY ST
ST CHARLES, MO 63301
314-946-6030

190—ST. LOUIS METROPOLITAN

ABADA, ROLANDO AN
10010 KENNERLY RD.
ST. LOUIS, MO 63128
314-842-5600

ABBOUD, NABIL C AN
216 S KINGS HIGHWAY
ST LOUIS, MO 63110
314-454-7954

ABEL, CHARLES C IM
BARNES HOSP EAST PAVILION
SUITE 16416
ST. LOUIS, MO 63110
314-367-4800

ABEL, OLIVER IM
BARNES HOSP. E. PAVILION
SUITE 16416
ST LOUIS, MO 63110
314-367-4800

ABELARDO, MIGUEL I IM
300 S GRAND
ST LOUIS, MO 63103
314-658-5652

ABINOJA, CONRADO B IM
4909 LINDENWOOD
ST LOUIS, MO 63109
314-351-6134

ABODEELY, DANIEL A R
586 PINETREE LAKE
CHESTERFIELD, MO 63017
314-842-3560

ABRAMS, MORRIS U
4625 LINDELL BLVD STE 3
ST LOUIS, MO 63108
314-367-1660

ABRAMSON, CHARLES L R
14 DOGWOOD LANE
ST LOUIS, MO 63124
314-567-1656

ABU-DALU, ZIAD FP
100 N. EUCLID
ST. LOUIS, MO 63108
314-367-3711

ACETO, THOMAS JR PO
1465 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-577-5648

ACKERMAN, LAUREN PTH
#8 CHICKADEE WAY
SETAUKET, NY 11733
516-444-3011

ADELMANN, EUGENE N
ST. ANTHONY MED. BLDG.
STE 2250 10004 KENNERLY
ST LOUIS, MO 63128
314-849-5144

ADLER, BENARD C OTO
4511 FOREST PARK BLVD
ST LOUIS, MO 63108
314-367-7711

ADLER, STEVEN J R
510 S. KINGSHIGHWAY
ST. LOUIS, MO 63110
314-454-2565

---

* Doctor of Osteopathy.

AFF, HELEN PO
1412 SPOEOE RO
ST LOUIS, MO 63131
AFUWAPE, EMANUEL A GS
2102 STATE ST.
BOX 2677
E. ST LOUIS, IL 62205
314-274-4640
AGASINO, ARMELA R FP
#6 WEST SHORE VILLAGE
CUBA, MO 65453
314-885-3499
AGASINO, GAUOENCIO L OBG
#20 HUGHES FORO ROAO
SULLIVAN, MO 63080
314-468-8059
AGRESS, HARRY IM
8631 OELMAR BLVO
ST LOUIS, MO 63124
314-991-1420
AGUINALDO, JAIME A IM
9313 MANCHESTER RO
ST LOUIS, MO 63119
314-961-5656
AHAOI, ABO U IM
601 S. BRENTWOOO BLVO.
ST LOUIS, MO 63105
314-727-6300
AHERN, ARCHIBALO M IM
3915 WATSON RO
ST LOUIS, MO 63109
314-644-7100
AHLERING, GEORGE H OBG
621 S NEW BALLAS STE 56
ST LOUIS, MO 63141
314-432-3489
AHMAO, AOEEB FP
6917 W. FLORISSANT
ST. LOUIS, MO 63136
314-383-1100
AHMAO, NASEER IM
1325 SOUTH GRANO BLVO
ST. LOUIS, MO 63104
314-771-7600
AHMAO, NUSRAT J OBG
2506 BOPP RO.
ST. LOUIS, MO 63131
314-567-4957
AHMEO, NOOR PS
#2 MEMORIAL ORIVE
SUITE 104
ALTON, IL 62002
618-465-6401
AITKEN, LOUIS F IM
4989 BARNES HOSPITAL PL
5102 QUEENY TOWER BL
ST LOUIS, MO 63110
314-361-5056
AKBARNIA, BEHROOZ A ORS
1465 S. GRANO BLVO.
ST. LOUIS, MO 63104
314-771-7643
AKER, UMIT T IM
1325 S. GRANO
ST LOUIS, MO 63104
314-776-5617
AKYOL, SALIM IM
5505 OELMAR
STE 506
ST LOUIS, MO 63112
314-361-6699
AL-ALY, MOHAMMEO R
601 S. BRENTWOOO
CLAYTON, MO 63105
314-727-6300
ALBERA, VICTOR H AN
RR #2-BOX 236
ST CLAIR, MO 63077
314-239-7711
ALBERT, INGRIO O
2428 WOOOSON
ST LOUIS, MO 63114
314-427-2424
ALBUS, THOMAS E ORS
12255 OEPAUL OR.
ST. LOUIS, MO 63044
314-291-7181
ALEGRE, JORGE M IM
224 S. WOOOS MILL
CHESTERFIELO, MO 63017
314-576-6700
ALEKSANOER, BERNAROO G P
1420 GRATTAN ST.
ST LOUIS, MO 63104
314-241-7600
ALEX, MORRIS IM
522 N NEW BALLAS RO
ST LOUIS, MO 63141
314-567-1902
ALEXANOER, GEORGE K GS
SUITE 207
3009 N. NEW BALLAS RO.
ST LOUIS, MO 63131
314-432-8882
ALI, SYEO S CHN
2120 MAOISON AVE. SUITE 204
GRANITE CITY, IL 62040
618-876-6321

ALLEN, BRENT T GS
4989 BARNES HOSPITAL PLAZA
ST. LOUIS, MO 63110
314-961-6089
ALLEN, HOLLIS N PTH
681 NORTH FOREST
ST LOUIS, MO 63119
ALLEN, JAMES H PTH
2204 WELSCH INOUSTRIAL CT.
ST LOUIS, MO 63141
314-432-1850
ALLEN, MELVIN A OBG
3555 SUNSET OFFICE OR
ST LOUIS, MO 63127
314-821-3900
ALLEN, STEPHEN P IM
125 CLARA AVE
ST. LOUIS, MO 63119
314-862-3742
ALLEN, WILLARO M OBG
14180 BURNTWOOOS RO.
GLENWOOO, MO 21738
301-527-7478
ALMIRON, OSIAS A GS
10345 WATSON ROAO
CRESTWOOO, MO 63127
314-821-8099
ALONSO, J. MARIO JR FP
12660 LAMPLIGHTER MEO CTR.
ST LOUIS, MO 63128
314-843-7956
ALONSO-YAGUE, PASCUAL IM
4585 WASHINGTON
FLORISSANT, MO 63033
314-839-3200
ALTEPETER, H. MARTIN GS
ST. LOUIS CO SURGICAL GROUP
621 S. NEW BALLAS RO.
ST. LOUIS, MO 63141
314-872-8386
ALTHEIOE, HARVEY E PH
9 MAGNOLIA OR
ST LOUIS, MO 63124
ALVAREZ, ULISES C IM
4585 WASHINGTON
SUITE A1
FLORISSANT, MO 63033
314-839-3200
ALVIS, EOMUNO B OPH
211 N MERAMEC
ST LOUIS, MO 63105
314-863-4200
AMANAT, HABIBOLLAH JR EM
232 S WOOOSMILL
ST LUKES HOSPITAL
CHESTERFIELO, MO 63017
314-434-1500
AMILL, SAMUEL A IM
12026 CONWAY RO.
ST. LOUIS, MO 63131
314-991-1326
AMIN, NAVIN J OPH
100 N. EUCLIO AVE.
SUITE 310
ST LOUIS, MO 63108
314-367-7077
AMJAO, MOHAMMAO T PO
10004 KENNERLY RO.
ST. ANTHONY MEO. BLDG.
ST. LOUIS, MO 63128
314-849-6030
ANOERSON, CHARLES B GS
6343 ALEXANOER DR
CLAYTON, MO 63105
314-454-3081
ANOERSON, JOHN M P
100 N EUCLIO
ST LOUIS, MO 63108
314-361-6100
ANORUS, CHARLES H GS
7017 NASHVILLE
ST. LOUIS, MO 63117
314-781-6354
ANGLO, LUIS B FP
10004 KENNERLY RO
SUITE 155
ST LOUIS, MO 63128
314-849-1200
ANSLINGER, OAVIO L IM
14329 LAKE TAHOE OR
CHESTERFIELO, MO 63017
314-821-9150
ANSTEY, GEO C OBG
10449 ST CHARLES ROCK R
ST ANN, MO 63074
314-429-1900
ANSTEY, JOHN T OBG
#15 HORTENSE PL
ST LOUIS, MO 63108
314-429-1900
ANTONIOU, CHRIS A PD
3434 BRIDGLANO
BRIDGETON, MO 63044
314-291-4994
AOUINO, TOMAS I PTH
615 S NEW BALLAS RO
ST LOUIS, MO 63141
314-569-6120

ARCELONA, JESUS A GP
3535 S JEFFERSON
ST LOUIS, MO 63118
314-773-3580
ARCHER, CAROL R R
1325 S GRANO
ST LOUIS, MO 63104
314-77107600
ARENOS, PROCESO T GS
3009 N BALLAS RO. #216
ST. LOUIS, MO 63131
314-567-5377
ARIAS, FERNANOO OBG
4911 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-454-2342
ARNESON, AXEL N OBG
6536 OEVONSHIRE
ST LOUIS, MO 63109
314-367-0353
ARNEY, WM G P
16 HAMPTON VILLAGE
ST LOUIS, MO 63109
314-351-5927
ARNOLO, KENNETH J GS
6107 QUEENY TOWER
4989 BARNES HOSP. PLAZA
ST LOUIS, MO 63110
314-454-2100
ARNOT, JOHN P ORS
1034 S BRENTWOOO BLVO
ST LOUIS, MO 63105
314-721-7325
ARONBERG, JEROME M O
141 N MERAMEC
ST LOUIS, MO 63105
314-863-6221
ARRIBAS, NEVA P OPH
EAST PAVILION SUITE 17413
4949 BARNES HOSP. PLAZA
ST LOUIS, MO 63110
314-367-1181
ARUNSKI, OAVIO L IM
6500 CHIPPEWA
ST. LOUIS, MO 63109
314-481-4866
ASHBY, RICHARO NS
P.O. BOX 31102
ST LOUIS, MO 63131
314-965-8282
AUCLAIR, RONALO J RHU
456 N. NEW BALLAS RO.
ST. LOUIS, MO 63141
314-569-3305
AUER, ARTHUR I GS
667 LANGTON
ST LOUIS, MO 63105
314-567-6666
AUFOERHEIOE, G. RUSSELL IM
216 NORTHLANO MEO. BLDG
ST LOUIS, MO 63136
314-383-6818
AUFFENBERG, ROBERT J R
27 TOPTON WAY
CLAYTON, MO 63105
314-721-0785
AUGUSTE, J. MELEOAIN PO
600 N. UNION BLVO.
ST. LOUIS, MO 63108
314-367-1828
AUGUSTIN, CESAR R
P. O. BOX 5386
NAGEL STATION
ST LOUIS, MO 63115
314-385-3600
AVINS, LAURENCE R OPH
UNIV. CLUB TOWER
1034 S. BRENTWOOO
ST. LOUIS, MO 63117
314-727-6711
AVIOLI, LOUIS V IM
216 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-7765
AXELROO, JANICE H OBG
1325 S. GRANO BLVO.
ST. LOUIS, MO 63104
314-776-8100
AYATA, SEOAT M AN
6420 CLAYTON RO
ST LOUIS, MO 63117
314-644-3000
AYER, ANGELA G OPH
2601 N. WHITTIER ST.
ST. LOUIS, MO 63108
314-821-0500
AYKENT, YAVUZ CO
950 FRANCIS PL
ST LOUIS, MO 63105
314-726-6512
AYLWARO, HOWARO J JR IM
911 S BRENTWOOO BLVO
ST LOUIS, MO 63105
314-725-2100
AYLWARO, HOWARO J SR PS
6651 CHIPPEWA
ST LOUIS, MO 63109
314-647-8895

AYRES, STEPHEN M IM
1325 SOUTH GRANO BLVO
ST LOUIS, MO 63104
314-771-7600
AYVAZIAN, VATCHE H GS
621 S NEW BALLAS RO
ST LOUIS, MO 63141
314-569-6442
AZU, CHARLES C GS
2601 N. WHITTIER
ST. LOUIS, MO 63113
314-371-3100
AZZAM, FARIO J AN
1325 SOUTH GRANO BLVO.
ST. LOUIS, MO 63104
314-865-4000
BABKA, JOSEPH J GS
10004 KENNERLY RO.
ST LOUIS, MO 63128
314-849-2500
BACKER, MATT H OBG
10345 WATSON RO
ST LOUIS, MO 63127
314-965-6033
BAGBY, JAMES W O
#7 COUNTRY LIFE ACRES
ST LOUIS, MO 63131
BAGLAN, ROBERT J TR
OEPT OF RAO. THERAPY
615 S. NEW BALLAS RO.
ST. LOUIS, MO 63141
454-3381
BAGWE, LATA R OBG
SUITE #105,
14377 WOOOLAKE OR.
CHESTERFIELO, MO 63017
314-878-6236
BAHL, OM P CO
10004 KENNERLY RO. #320
ST LOUIS, MO 63128
314-843-1660
BAILEY, ORENNAN GS
6356 CLAYTON RO
ST LOUIS, MO 63117
314-647-3834
BAILEY, GREGORY J NS
12584 MARKAIRE OR.
ST. LOUIS, MO 63141
314-434-8748
BAILEY, WM H OPH
9157 MILTON AVE
ST LOUIS, MO 63114
314-423-2870
BAKER, CARL N FP
215-3 ENCHANTEO PARKWAY
MANCHESTER, MO 63011
314-394-1291
BALOWIN, RICHARO ORS
3009 NORTH BALLAS RO.
SUITE #204
ST LOUIS, MO 63131
314-569-2458
BALE, ROBERT O OBG
777 S. NEW BALLAS RO.
CREVE COEUR, MO 63141
314-567-5016
BALLAL, HEBRI S IM
3915 WATSON RO
ST LOUIS, MO 63109
314-644-7100
BALLINGER, WALTER F GS
4960 AUOUBON AVE
ST LOUIS, MO 63110
314-454-3423
BALSTER, VERNON H OM
819 LOCUST
ST LOUIS, MO 63101
314-621-4300
BAMSHAO, JERRY O
1120 GRAHAM RO
FLORISSANT, MO 63031
314-831-2464
BANOER, STEVEN J IM
946-O MARSHALL AVE.
WEBSTER GROVES, MO 63119
314-968-2194
BANOLE, DONALO F P
3801 JANUARY AVE
ST LOUIS, MO 63109
314-644-1474
BANERJI, OEBABRATA GS
10345 WATSON RO.
ST. LOUIS, MO 63127
314-821-6096
BANEZ, COLITA L P
5400 ARSENAL
ST LOUIS, MO 63144
314-664-8116
BANTON, M. ROMAN IM
13634 PEACOCK FARM RO
ST LOUIS, MO 63131
314-381-1204
BANTON, THOMAS J JR ORS
12255 OEPAUL OR
BRIDGETON, MO 63044
314-739-7654
BANTON, WILLIAM C II IM
13634 PEACOCK FARM RO.
ST. LOUIS, MO 63131
314-381-1204
BAROSLEY, JOHN L R
621 S NEW BALLAS RO
ST LOUIS, MO 63141
314-567-4442
BARI, WAGIH A PTH
615 S. NEW BALLAS RO.
ST. LOUIS, MO 63141
314-569-6120
BARKER, EOWARO T PO
2821 N BALLAS RO
ST LOUIS, MO 63131
314-432-1854
BARKER, KENOALL H OR
28 HAMMEL
WEBSTER GROVES, MO 63119
314-968-0144
BARLOW, VAL J IM
1033 MANCHESTER RO.
ELLISVILLE, MO 63011
314-227-4400
BARNER, HENORICK B COS
1325 S. GRANO BLVO.
ST LOUIS, MO 63104
314-577-6125
BARNES, WALTER C JR GPM
800 N. LINOBERGH BLVO.
ST. LOUIS, MO 63167
314-694-8806
BARRAGAN, HECTOR O GS
533 COUCH
C/O ST.JOS/HOS/MEO/BLDG
ST. LOUIS, MO 63122
314-821-8997
BARRETT, SCOTT R JR OBG
591 SUNBRIDGE OR.
CHESTERFIELO, MO 63017
314-367-6930
BARRETT, SCOTT R SR OBG
5505 OELMAR
ST LOUIS, MO 63112
314-367-6930
BARROW, JACK IM
35 N CENTRAL AVE
ST LOUIS, MO 63105
314-727-6771
BARTELL, MICHAEL F IM
1035 BELLEVUE AVE.
ST. LOUIS, MO 63117
314-781-8405
BARTNICK, MITCHEL L FP
RR 2 BOX 38
OESOTO, MO 63020
314-638-2028
BARTON, ROBERT W IM
224 S. WOOOS MILL RO.
CHESTERFIELO, MO 63017
314-878-6260
BASHITI, MOHAMMAO F AN
232 S. WOOOS MILL RO.
CHESTERFIELO, MO 63017
314-434-1500
BASSMAN, DONALO R ORS
456 N. NEW BALLAS RO.
ST. LOUIS, MO 63141
314-569-0130
BATAN-CO, RUBY L AN
14233 REELFOOT LAKE OR
CHESTERFIELO, MO 63017
314-469-1039
BAUER, OANIEL J IM
621 S. NEW BALLAS RO.
CREVE COEUR, MO 63141
314-432-4415
BAUER, EUGENE A O
4989 BARNES HOSPITAL PLAZA
ST LOUIS, MO 63110
314-454-3187
BAUER, JOHN O PTH
#10 HOSPITAL OR.
ST. PETERS, MO 63376
314-441-6500
BAUER, JOS A PO
5 RIDGEWOOO RO
ST LOUIS, MO 63124
BAUER, ROBERT A FP
2386 N HIGHWAY 67
FLORISSANT, MO 63033
314-921-7302
BAULA, ARMINDO G R
609 JEFFERSONIAN OR
ST LOUIS, MO 63125
BAUSCHARO, FREDERICK O O
6500 CHIPPEWA
ST LOUIS, MO 63109
314-832-6803
BEARE, J. BYRON U
12 COACH-N-FLOUR
ST. LOUIS, MO 63131
BEARE, LUCIA V AN
12 COACH N FOUR
ST. LOUIS, MO 63131
314-966-4648
BEASLEY, LOUIS K GE
915 E. OCEAN BLVO.
STUART, FL 33494
305-283-8255
BEATO, DAVIO L IM
6651 CHIPPEWA
SUITE 223
ST LOUIS, MO 63109
314-781-2929
BEATY, WM R OBG
35 MUILFIELO LANE
ST LOUIS, MO 63141
314-227-8500
BECKER, BERNARO OPH
517 S EUCLIO
ST LOUIS, MO 63110
314-454-2723
BECKER, ROBT L OBG
777 SO. NEW BALLAS RO.
ST LOUIS, MO 63141
314-567-7303
BECKER, STANLEY C OPH
4401 HAMPTON
ST LOUIS, MO 63109
314-352-5500
BECKETTE, EOMUNO OBG
1245 GRAHAM RO RM 302
FLORISSANT, MO 63031
314-837-3151
BECKMAN, DONALO E GP
4205 VIRGINIA AVE
ST LOUIS, MO 63111
314-832-2102
BEOWINEK, JOHN R
4511 FOREST PARK BLVO.
ST. LOUIS, MO 63108
314-454-3381
BEHBAHANI, PARVIZ M AN
1402 S. GRANO BLVO.
ST LOUIS, MO 63104
314-664-9800
BEHRENS, DONALO T GS
3654 S GRANO AVE
ST LOUIS, MO 63118
314-776-0568
BEHRENS, GERALO L GS
315 N. KIRKWOOO RO
ST LOUIS, MO 63122
314-966-8500
BEIOLE, RAYMONO J PO
12255 OEPAUL OR. #340
BRIDGETON, MO 63044
314-291-4727
BELEW, JOE E OBG
777 S NEW BALLAS RO
ST LOUIS, MO 63141
314-569-0055
BELL, MARTIN J GS
500 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-6022
BENAGE, CLARENCE M GS
11115 NEW HALLS FERRY RO.
SUITE 303
FLORISSANT, MO 63033
314-838-5600
BENEOICT, WILLIAM W IM
522 N NEW BALLAS RO
CREVE COEUR, MO 63141
314-567-3113
BENNETT, JOHN OBG
950 FRANCIS PLACE
SUITE 219
ST. LOUIS, MO 63105
314-727-3087
BENNETT, KENNETH J GS
456 N NEW BALLAS RO
ST LOUIS, MO 63141
314-569-0130
BENOIST, WALTER F PO
119 CHURCH ST
ST LOUIS, MO 63135
314-521-1600
BENSON, JOHN F OBG
1227 LACLEOE STATION RO.
ST LOUIS, MO 63117
314-389-3750
BERAHA, NATHAN B PD
500 S. KINGSHIGHWAY
ST. LOUIS, MO 63110
314-454-6000
BERARO, LOUIS N U
9712 LOOKOUT OR.
ST LOUIS, MO 63137
BERCKES, STACY J AN
7950 WESTOVER PLACE
UNIVERSITY CITY, MO 63130
314-993-5532
BERG, EOWARO F OPH
5 CEOARCREST
ST LOUIS, MO 63132
314-569-1558
BERG, LEONARO N
BARNES HOSPITAL PLAZA
SUITE 16304
ST LOUIS, MO 63110
314-367-3122
BERG, RALPH FP
3203 S GRANO BLVO
ST LOUIS, MO 63118
314-773-7857
BERGER, EOWARO J IM
300 S GRANO BLVO
ST LOUIS, MO 63103
314-658-5794
BERGMAN, HUGO F GP
2920 MONITEAU OR.
ST LOUIS, MO 63121

BERGMANN, DWAYNE L U
6500 CHIPPEWA ST
ST LOUIS, MO 63109
314-351-5300
BERGMANN, JOHN F P
522 N NEW BALLAS RD
ST LOUIS, MO 63141
314-567-1958
BERGMANN, MARTIN TS
2821 N. BALLAS RD.
ST LOUIS, MO 63131
314-567-4373
BERGNER, GRACE E IM
GRANT MEDICAL CLINIC
114 N. TAYLOR
ST LOUIS, MO 63108
314-534-8600
BERLANO, HARRY I R
141 N MERAMEC
CLAYTON, MO 63105
314-721-0242
BERMAN, WM OBG
4910 FOREST PARK BLVD
ST LOUIS, MO 63108
314-361-5220
BERNABE, FLORINIO H OBG
2250 UNION RD
ST LOUIS, MO 63125
314-544-3700
BERNABE, OFELIA M IM
1642 FRONTENACWOOO LANE
FRONTENAC, MO 63131
314-544-3700
BERNOSEN, GERARD H FP
12933 TOPPING ESTATES
ST LOUIS, MO 63131
314-962-7875
BERNI, ANTHONY A R
777 S NEW BALLAS ROAD
ST LOUIS, MO 63141
314-567-4350
BERNSTEIN, AARON M IM
7171 DELMAR
ST LOUIS, MO 63130
314-863-0033
BERRY, JOHN W IM
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-872-7500
BERWALD, DAVIO M GS
11789 NATURAL BRIDGE
BRIDGETON, MO 63044
314-731-2080
BERWALD, IRVIN I FP
747 OLD BOHOMME ROAD
ST LOUIS, MO 63132
314-731-2080
BETTONVILLE, PAUL J IM
6331 PERSHING
ST LOUIS, MO 63130
314-965-7201
BHATTACHARYA, ARJUN GS
7200 MANCHESTER RD
ST LOUIS, MO 63143
314-645-7744
BHATTACHARYA, SARWATH IM
9903 GRAVOIS
AFTON, MO 63123
631-6200
BHUYAN, MAHENDRA IM
2627 TELEGRAPH RD
ST. LOUIS, MO 63125
314-894-1668
BIALECKI, LEON IM
11133 OUNN RD.
ST LOUIS, MO 63136
314-355-2300
BIDOY, RALPH L P
965 MASONRIDGE RO
ST LOUIS, MO 63141
314-567-5185
BIEKER, MARY A IM
12663-B MATEUS OR.
ST. LOUIS, MO 63141
314-434-3517
BIELLO, DANIEL R DR
510 SOUTH KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-3566
BIGGS, F D IM
1034 SOUTH BRENTWOOOO
SUITE 500
ST. LOUIS, MO 63117
314-863-0009
BIGGS, JOHN P
1034 SO BRENTWOOD
SUITE 800
ST LOUIS, MO 63117
314-863-2244
BILCHIK, RONALD C OPH
224 S. WOODS MILL RO.
CHESTERFIELD, MO 63017
314-878-9902
BILLY, LAWRENCE J GS
11115 NEW HALLS FERRY RO
FLORISSANT, MO 63033
314-838-5600
BILSKY, NATHAN IM
2851 NE 183RO ST
MIAMI, FL 33160
BINDBEUTEL, DONALD A GS
25 WILLOW OAK LANE
ST LOUIS, MO 63122
314-647-0825
BINOER, MORTON A IM
4652 MARYLAND AVE
ST LOUIS, MO 63108
314-367-3113
BINNINGTON, H B GS
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-6666
BINZ, DONALD E II FP
408 CRESCENT
MATTOON, IL 61938
BIRCHER, JOHN L R
3932 FEDERER PLACE
ST LOUIS, MO 63116
314-842-5600
BIRD, H W P
62 CONWAY LANE
ST LOUIS, MO 63124
314-997-2783
BIRENBAUM, AARON IM
10511 OLD OLIVE ST RD
ST LOUIS, MO 63141
314-993-2660
BIRGE, CLIFFORD A IM
5535 OELMAR
ST. LOUIS, MO 63112
BISHOP, MARION O GS
751 ST FRANCIS ST
FLORISSANT, MO 63031
314-837-0505
BISNO, DANL OPH
456 N NEW BALLAS RD.
SUITE #118
ST. LOUIS, MO 63141
314-432-1134
BLACK, JOSEPH T N
BARNES HOSPITAL PLAZA
SUITE 16304
ST LOUIS, MO 63110
314-367-3122
BLAIR, JOHN DOUGLAS PTH
1402 S. GRAND
ST LOUIS, MO 63104
314-664-9800
BLAIR, OLGA M PTH
1402 S GRAND
ST LOUIS, MO 63104
314-664-9800
BLAIR, VILRAY P ORS
42 MAGNOLIA OR.
ST LOUIS, MO 63124
314-862-2552
BLAIR, VILRAY P III ORS
4989 BARNES HOSPITAL PLAZA
ST. LOUIS, MO 63110
314-454-2979
BLAISE, DALE W FP
615 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-6010
BLANKE, THOMAS J GS
621 S NEW BALLAS RO
ST. LOUIS, MO 63141
314-569-0227
BLASKIEWICZ, ROBERT J OBG
2821 N. BALLAS ROAD
SUITE 105
ST. LOUIS, MO 63131
BLATH, RICHARO A U
224 S. WOODS MILL RD.
SUITE 510
CHESTERFIELD, MO 63017
314-434-3433
BLAUFUSS, MARK C PO
7777 A CHARING SQ.
ST. LOUIS, MO 63119
314-961-4292
BLEISCH, VIRGIL R PTH
6150 OAKLAND AVE
ST. LOUIS, MO 63139
314-645-8510
BLOCK, ARNOLD S P
100 N EUCLID AVE STE 60
ST LOUIS, MO 63108
314-361-8381
BLOOMBERG, GORDON R PO
777 S. NEW BALLAS RO.
ST. LOUIS, MO 63141
BLUMENTHAL, MARK F GS
12025 TINDALL
ST. LOUIS, MO 63131
BLYTHE, JAMES G OBG
615 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-6880
BOBROW, JAMES C OPH
211 NORTH MERAMEC
ST LOUIS, MO 63105
314-721-0854
BOEDEKER, JAMES P OBG
1035 BELLEVUE AVE
SUITE 205
ST. LOUIS, MO 63117
314-644-6262
BOHIGIAN, GEO M OPH
456 N NEW BALLAS RO.
SUITE 259
ST LOUIS, MO 63131
314-569-1155
BOLDIZAR, ALBERT G OPH
2821 N BALLAS RO
ST LOUIS, MO 63131
314-872-7141
BOLOT, THOS H IM
3394 MC KELVEY RD
BRIDGETON, MO 63044
314-739-5070
BOLES, C R PD
35 N CENTRAL AVE
CLAYTON, MO 63105
314-725-9100
BOLINSKE, ROBT E A
11722 STUOT AVE
ST LOUIS, MO 63141
314-569-0510
BOLLOZOS, GEORGE D PTH
3933 S BROADWAY
ST LOUIS, MO 63118
314-865-3333
BOLTON, ROBERT L OM
2949 OLIVE
ST LOUIS, MO 63103
314-531-4722
BONACORSI, JOHN OTO
12255 DEPAUL OR.
BRIDGETON, MO 63044
314-291-5307
BOND, LESLIE F GS
3400 N KINGS HWY
ST LOUIS, MO 63115
314-385-3600
BONDURANT, BRYCE H OBG
P.O. BOX 1199
GREEN VALLEY, AZ 85614
BONFANTI, ALBERT L OBG
P O BOX 4148 JENNINGS S
ST LOUIS, MO 63136
314-381-5557
BONIUK, ISAAC OPH
EAST PAVILION SUITE 17413
4949 BARNES HOSP. PLAZA
ST LOUIS, MO 63110
314-367-1181
BONSANTI, ROBT L IM
3394 MC KELVEY RO
BRIDGETON, MO 63044
314-291-3410
BOONKHAM, CHOTCHAI IM
3478 BRIDGELAND DR
BRIDGETON, MO 63044
314-291-3717
BOONSHAFT, BENJE IM
10511 OLD OLIVE ST RD
ST LOUIS, MO 63141
314-993-2660
BORODACH, GEROLD N AN
2639 MIAMI
ST. LOUIS, MO 63118
772-1456
BOROWSKY, BENJ A IM
4910 FOREST PARK
ST LOUIS, MO 63108
314-367-2757
BORTNICK, ARTHUR R OBG
777 S NEW BALLAS RO
ST LOUIS, MO 63141
314-569-2424
BOSCHE, ALFRED J OBG
456 NORTH NEW BALLAS RO.
ST. LOUIS, MO 63141
314-569-2022
BOUHASIN, JOHN D PD
3720 HAMPTON
ST LOUIS, MO 63109
314-351-8484
BOURJOLLY, WILSON P OPH
900 N HIGHWAY 67
(LINDBERGH)
FLORISSANT, MO 63031
314-838-0300
BOURKE, THOS E IM
3394 MC KELVEY RD
BRIDGETON, MO 63044
314-739-5070
BOVERI, JOS C OBG
533 COUCH AVE. RM G71
ST LOUIS, MO 63122
314-821-2004
BOWOERN, EDWARO H GS
4440 LINDELL
APT. 1102
ST LOUIS, MO 63108
BOWEN, STEPHEN F OPH
16 HAMPTON VILLAGE PLZ
ST LOUIS, MO 63109
314-351-5330
BOWEN, WILLIAM G IM
4652 MARYLAND AVE.
ST. LOUIS, MO 63108
314-367-3113
BOWER, RICHARO GS
500 S. KINGSHIGHWAY BLVO.
ST LOUIS, MO 63110
314-454-6000

BOWERMAN, HAROLD H OTO
7 CLAYTON TERR.
ST LOUIS, MO 63131
314-533-5233
BOWERS, JAMES E PD
533 COUCH AVENUE
ST. LOUIS, MO 63122
314-966-3324
BOWERSOX, WARREN A GS
319 N 1ST ST
PACIFIC, MO 63069
314-257-3500
BOWLES, G R IM
12166 OLD BIG BEND
ST LOUIS, MO 63122
314-821-9150
BOWLES, WM T U
SUITE 17301 WEST PAVILION
BARNES HOSPITAL PLAZA
ST LOUIS, MO 63110
314-361-2052
BOYARSKY, SAUL U
4960 AUDUBON AVE
ST LOUIS, MO 63110
314-454-3701
BRADLEY, RICHARD V GS
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63117
314-727-2011
BRADSHAW, ROBERT J PD
1218-D MESA VERDT LANE
MANCHESTER, MO 63011
314-227-7798
BRADY, HARRY R OPH
1609 DUNMRR DR
ST LOUIS, MO 63131
314-432-6137
BRANCATO, DONALD H ORS
11115 DUNN RD.
ST LOUIS, MO 63136
314-355-7717
BRAND, EARL L GP
120 E LOCKWOOD
ST LOUIS, MO 63119
314-961-3038
BRANDWIN, LESLIE M IM
4910 FOREST PARK BLVD.
ST. LOUIS, MO 63109
314-367-2757
BRANGLE, ROBT W PTH
C/O ALLEN MED. LABORATORIES
2204 WELSCH INDUSTRIAL
ST LOUIS, MO 63141
314-645-8510
BRAUFMAN, HARVEY S OPH
1750 MEDICAL ARTS
MINNEAPOLIS, MN 55402
612-338-4861
BREMER, RITA F IM
3024 ORTON ST
ST CHARLES, MO 63301
BRENNAN, DANL J PS
621 S. NEW BALLAS RD.
SUITE 1003
ST LOUIS, MO 63141
314-567-3737
BRENNAN, GEO A OBG
5205 CHIPPEWA ST.
SUITE 303
ST LOUIS, MO 63109
314-726-2205
BRENNAN, ROBERT A JR OB
5376 FERBET ESTATES DR.
ST. LOUIS, MO 63128
314-351-5700
BRENNAN, ROBT A SR OBG
5205 CHIPPEWA #303
ST LOUIS, MO 63109
314-351-5700
BRENNAN, ROBT V U
533 COUCH AVE.
KIRKWOOD, MO 63122
314-966-4862
BRERETON, ROBT L GS
206 N CLAY AVE
KIRKWOOD, MO 63122
314-821-4300
BRICKER, EUGENE M GS
43 HIGHGATE RD
ST. LOUIS, MO 63132
BRIELMAIER, CHARLES AN
6420 CLAYTON
ST LOUIS, MO 63117
314-644-3000
BRIGHAM, DAVID W OPH
1103 DOVERGATE
ST LOUIS, MO 63122
314-391-0233
BRIMMO, A I GS
6000 W FLORISSANT
ST LOUIS, MO 63136
314-381-5150
BRINKMAN, ROBERT A IM
522 N. NEW BALLAS
ST. LOUIS, MO 63141
314-567-3113
BRION, PACELLI E P
3535 S. JEFFERSON
ST LOUIS, MO 63118
314-776-1344

BRISCOE, JOHN R GP
7346 A MANCHESTER
ST. LOUIS, MO 63143
314-645-5302
BRODEUR, ARMAND E R
1465 S GRAND AVE
ST LOUIS, MO 63104
314-577-5654
BRODY, ARNOLD G FP
3654 S. GRAND
ST LOUIS, MO 63118
314-865-4700
BRONSON, SHAEL S P
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-872-8869
BROOKES, ROBT D P
224 SO WOODS MILL RD.
SUITE 360
CHESTERFIELD, MO 63017
314-878-7048
BROUN, GORONWY O JR IM
6359 WATERMAN AVE
ST LOUIS, MO 63130
314-771-7600
BROWN, BARRY D IM
6125 CLAYTON SUITE 412
CLAYTON, MO 63139
314-645-6161
BROWN, FREEMAN P III AN
218 HOLLYBERRY CT
BALLWIN, MO 63011
314-391-6606
BROWN, JAMES M FP
11936 BETH DR
ST LOUIS, MO 63126
314-867-3600
BROWN, SEYMOUR AN
P.O. BOX 8335
MADERIA BEACH, FL 33738
BRUCE, HELEN L PH
3263 HAWTHORNE BLVD.
ST LOUIS, MO 63104
BRUNS, KENNETH AN
P.O. BOX 16823
ST LOUIS, MO 63105
314-434-0600
BRUNT, L. MICHAEL GS
7051 WATERMAN
ST. LOUIS, MO 63130
314-721-7983
BRYAN, JAMES H OPH
242 BRISTOL RD.
ST. LOUIS, MO 63119
BRYAN, WM T OTO
9349 PARKSIDE DRIVE
ST. LOUIS, MO 63144
BUCY, JAMES G U
BARNES HOSP. PLAZA
SUITE 17-302
ST LOUIS, MO 63110
314-361-4880
BUDD, JOHN J JR IM
9012 MANCHESTER RD
ST LOUIS, MO 63144
314-962-2170
BUETTNER, JOHN BRIGHAM GS
3106 QUEENY TOWERS
BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-454-2100
BURACK, HARRY D IM
5548 WATERMAN PL
ST. LOUIS, MO 63112
BURCH, PHILLIP M PTH
615 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-6000
BURCHARD, LUKE L FP
2612 WESTERN AVE.
MATTOON, IL 61938
BURCHETT, ROBERT B IM
7012 STANFORD
ST. LOUIS, MO 63130
314-361-1212
BURDE, RONALD M OPH
660 S EUCLID AVE
ST LOUIS, MO 63110
314-454-2741
BURDGE, ROBERT E ORS
1325 S GRAND BLVD
ST LOUIS, MO 63104
314-771-7643
BURGESS, DEAN OPH
EAST PAVILION SUITE 17413
4949 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-367-1181
BURKE, ROBT J PD
6379 DEVONSHIRE AVE
ST LOUIS, MO 63109
314-832-2877
BURKHART, EDWARD F D
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5711
BURMEISTER, RAY W IM
INTERMED MED CONSULTANT
3535 SO JEFFERSON
ST LOUIS, MO 63118
314-771-1691

BURNS, EDWARD L JR IM
4600 S. LINDBERGH
ST. LOUIS, MO 63127
314-842-5211
BURNS, FRANCIS J CRS
6500 ELLENWOOD
ST LOUIS, MO 63105
BURNSIDE, CHAS R GP
206 W ARGONNE
KIRKWOOD, MO 63122
314-821-5798
BURR, DONALD C R
456 N NEW BALLAS RD.
ST. LOUIS, MO 63141
314-567-1644
BURRIS, GARRETT C PD
555 N. NEW BALLAS RD.
SUITE 100
ST. LOUIS, MO 63141
314-569-0720
BURST, DONALD O ORS
6651 CHIPPEWA ST
ST LOUIS, MO 63109
314-647-2014
BURSTEIN, ROBT OBG
911 S BRENTWOOD BLVD
ST LOUIS, MO 63105
314-721-8852
BUSCH, ANTHONY K P
6600 W. MAIN ST.
SUITE #8
BELLEVILLE, IL 62223
618-397-4466
BUSSE, PAUL R
120 W MERMOD
ST LOUIS, MO 63122
314-878-4680
BUSSMANN, CARL E GS
1546 COTTON TREE DR.
ST. LOUIS, MO 63141
314-291-8130
BUSSMANN, DONALD W CD
746 FAIRFIELD LAKE DRIVE
CHESTERFIELD, MO 63017
BUTCHER, HARVEY R GS
4989 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-454-3420
BUTSCH, RICHARD H IM
901 CLAYTON RD
BALLWIN, MO 63011
314-227-2707
BYRUM, FRITZ A FP
P. O. BOX 46
BALLWIN, MO 63011
314-527-6960
CABAL, EDITO R
VA HOSP-J B
ST LOUIS, MO 63125
CABAL, MARIA PD
1501 E BROADWAY
EAST ST LOUIS, IL 62205
618-272-4700
CABBABE, EDMOND B PS
1325 S. GRAND
ST. LOUIS, MO 63104
314-771-7600
CABONCE, AUGUST L FP
4439 N. HWY 67
FLORISSANT, MO 63034
314-741-1908
CABRAL, GALILEU IM
14377 WOODLAKE DR
CHESTERFIELD, MO 63017
314-878-4430
CACIOLO, CARLO P IM
3654 S GRAND BLVD
ST LOUIS, MO 63118
CACIOPPO, JOS E GP
1040 N MASON RD N
ST LOUIS, MO 63141
314-878-5000
CADICE, JOHN B OBG
1245 GRAHAM RD
APT 408
FLORISSANT, MO 63031
314-838-8000
CAJILI, ANTONIO T IM
300 S GRAND
ST LOUIS, MO 63103
314-658-5647
CALCATERRA, CURT E IM
3838 JEFFCO BLVD.
ARNOLD, MO 63010
314-464-0380
CALDWELL, NATALIE A IM
9010 LANCASTER #204
SOUTHFIELD, MI 48034
CALLAGHAN, GERARD M OBG
1035 BELLEVUE
ST LOUIS, MO 63117
314-644-6262
CALLAHAN, DONALD E R
11155 DUNN RD RM 201
ST LOUIS, MO 63136
314-355-5030
CALLAHAN, JOS D CHP
22 W BRENTMOOR PARK
ST LOUIS, MO 63105
314-725-7371

CALODNEY, MARTIN M PD
8112 DELMAR 8LVD.
ST LOUIS, MO 63130
CAMEL, H M OBG
906 CHAPEL OAKS
ST LDUIS, MD 63131
314-454-2343
CAMPOS, FRANCISCD J PTH
11636 ADMINISTRATION OR
ST LOUIS, MD 63141
314-567-3905
CANAAN, SAML A OPH
100 N. EUCLIO AVE.
SUITE 310
ST LOUIS, MO 63108
314-367-7077
CANLAS, ARSENID L GS
12303 DE PAUL OR.
BRIDGETDN, MD 63044
314-344-6000
CANNON, EDWARD M U
1034 BRENTWODD BLVD
ST LOUIS, MO 63117
314-863-3800
CANTOR, HARVEY E N
555 N. NEW BALLAS RD. #100
ST LDUIS, MO 63141
314-569-0720
*CANTOR, SOL F EM
272 GLEN HOLLOW DR.
CHESTERFIELD, MO 63017
CAPAPAS-WAXELMAN, L R IM
9903 GRAVOIS AVE
AFFTDN, MD 63123
314-631-6200
CAPLIN, DAVID A PS
456 NORTH NEW BALLAS RD.
ST. LOUIS, MD 63141
314-569-0130
CARDEN, JUAN D IM
11155 DUNN RD
SUITE 111
ST. LOUIS, MO 63136
314-355-8200
CARLIN, M R U
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63117
314-725-7407
CARLS, GARRY L R
818 UPPER CAHDKIA RO.
CAHOKIA, IL 62206
CARLSON, ARNE E GS
3466 BRIDGELAND OR
SUITE 150
BRIDGETON, MO 63044
314-739-4830
CARMOOY, JOHN P IM
12209 ROYAL VALLEY
ST LOUIS, MO 63141
314-965-7440
CARONONGAN, CARMELITO M GS
529 CRDSS ST.
CAIRD, IL 62914
618-734-2020
CARRANZA, MAURD J FP
P O BDX 10817
ST LOUIS, MD 63129
314-789-3313
CARRIER, JDHN A IM
300 S GRAND
ST LOUIS, MO 63103
314-658-5638
CARROLL, GEO A GS
6248 A NOTTINGHAM AVE.
ST LDUIS, MO 63109
CARROLL, PERCY J GS
10341 MANCHESTER RD
ST LOUIS, MO 63122
CARRON, MICHAEL J R
2123 OAK OR.
ST. LOUIS, MO 63131
314-569-0961
CARTER, EOWIN E ORS
777 S NEW BALLAS RO
CREVE COEUR, MO 63141
314-567-5850
CARY, JOHN M IM
224 SOUTH WOODS MILL RO.
CHESTERFIELD, MO 63017
314-878-2460
CASE, MARY E PTH
13001 OIETERLE LANE
ST LDUIS, MO 63127
314-664-9800
CASEY, ARTHUR L OBG
3535 S. JEFFERSON AVE.
ST. LOUIS, MO 63118
314-773-2003
CASEY, EDWIN J OPH
4466 W PINE
ST LOUIS, MO 63108
CASEY, ELIDT C PO
621 S NEW BALLAS
ST LDUIS, MO 63141
314-569-6150
CASON, ELBERT H GS
1704 S BROADWAY
ST LOUIS, MO 63104
314-436-5100

CASTASUS, MANUEL A GS
600 N UNION BLVD
ST LDUIS, MD 63108
314-367-1828
CASTRD, JUAN M IM
3831 S. GRAND
ST LDUIS, MO 63118
314-664-2777
CATANZARO, ANTHONY F FP
2705 CLIFTON AVE
ST LDUIS, MD 63139
314-645-2517
CATANZARO, FRANK J JR OPH
3009 N. BALLAS RD.
ST. LOUIS, MO 63131
314-997-3210
CATANZARO, FRANK J SR CO
1688 FRONTENAC WDDDS LANE
ST LOUIS, MO 63131
314-432-1212
CATANZARD, RUDDLPH E GS
8131 PAGE BLVD
ST LOUIS, MD 63130
314-429-5989
CAYABYAB, PEDRO C FP
3610 S BRDADWAY
ST LOUIS, MO 63118
314-776-4683
CHACKO, RUTH IM
817 LISAKAY OR.
ST. LDUIS, MO 63122
314-231-3700
CHADARATANA, CHALERMQUAN OBG
12666 MASDN FDREST
ST. LOUIS, MD 63141
314-434-6088
CHADARATANA, PHADUNG OTO
12666 MASDN FOREST DR.,
ST LOUIS, MO 63141
314-487-9717
CHAMNESS, JAMES T PS
224 S. WOODS MILL RD #420
CHESTERFIELD, MO 63017
314-872-7474
CHANASUE, JDHN A IM
11115 NEW HALLS FERRY RD.
FLORISSANT, MD 63033
314-839-4466
CHAO, WILLIAM T PD
500 S. KINGSHIGHWAY
ST. LOUIS, MO 63110
314-454-6000
CHAPLIN, HUGH IM
OEPT OF PREVENTIVE MED
BOX 8113
ST LOUIS, MO 63110
314-454-2465
CHARLES, BENJ H IM
2 FIELOING RDAD
ST LOUIS, MO 63124
CHARLES, FRANCOIS CO
600 N UNION
ST LOUIS, MO 63108
314-367-1828
CHARNAS, RAYMOND M IM
1040 MASON RO N
ST LOUIS, MO 63141
314-434-0772
CHAVES, RUTILLO M OBG
1410 BOBOLINK PL
ST. LDUIS, MO 63144
314-645-8510
CHAVEZ, SALVADOR GS
525 COUCH AVE.
ST LOUIS, MO 63122
314-966-1500
CHEHVAL, MICHAEL J U
1035 BELLEVUE AVE
ST LOUIS, MO 63117
314-644-6767
CHEN, JAMES Z.W. TR
14014 CAMBERRA CT
CHESTERFIELD, MO 63017
314-768-8268
CHERRE, CHAS J R
10 RIDGETOP
ST. LOUIS, MD 63117
314-993-4555
CHEUK, SHU-SUM GS
224 S. WOOOS MILL RD.
SUITE 430
CHESTERFIELO, MO 63017
314-576-0060
CHEUNG, ALAN M.Y. AN
11133 OUNN RD.
ST. LOUIS, MO 63136
314-355-2300
CHINSKY, MURRAY IM
500 NORTHWEST PLAZA
ST ANN, MO 63074
314-291-6400
CHIPONGIAN, RAUL A OPH
1672 FOXLEIGH COURT
ST LOUIS, MD 63131
314-291-5000
CHIRINO, OCTAVIO R OBG
533 COUCH AVE.
KIRKWOOD, MO 63122
314-996-2528

CHISHTI, M. ISHAQ DPH
6651 CHIPPEWA
ST. LOUIS, MD 63109
314-781-3900
CHITTULURU, VENKATA C IM
9705 WATSON RD.
ST. LOUIS, MD 63126
314-966-6111
CHIU, TAI-MAD AN
6420 CLAYTDN RD
ST LDUIS, MD 63117
314-644-3000
CHD, KYU S DRS
456 N NEW BALLAS
SUITE 369
ST LOUIS, MO 63141
314-569-1830
CHDI, SAE R GS
157 SOUTH GRAESER RD
ST LDUIS, MD 63141
314-432-1212
CHOI, SEI YDUNG P
1650 BOONSLICK RD.
ST. CHARLES, MD 63301
314-946-3886
CHOU, YEN PING IM
RDBT KDCH HOSP
4101 KOCH RD
ST. LOUIS, MD 63129
314-622-5711
CHUA, STEVEN IM
1125 GRAHAM RDAD
FLORISSANT, MD 63031
314-838-5700
CHUNDURI, KRISHNA R AN
660 S. EUCLIO AVE.
ST. LOUIS, MO 63110
314-454-2858
CHUNG, KAP-EUN GS
205 WEST MAIN
FREOERICKTOWN, MO 63645
314-783-6428
CHUSAK, RICHARD B PS
3009 NO BALLAS RD.
SUITE 216
ST LOUIS, MD 63131
314-567-5377
CIAPCIAK, STANLEY J FP
1502 ST LDUIS AVE
ST LOUIS, MO 63106
314-621-2575
CLARK, JUNE M FP
621 S. NEW BALLAS
ST. LOUIS, MO 63141
314-569-6010
CLARK, MICHAEL L AN
1225 GRAHAM RD.
FLORISSANT, MO 63031
314-355-2300
CLARK, RICHARD E TS
4989 BARNES HOSP PLAZA
SUITE 3108 QUEENY TOWER
ST LOUIS, MO 63110
314-454-3457
CLASEMAN, WILMA W PH
3237 LDNGFELLOW BLVO
ST LOUIS, MO 63104
314-658-1041
CLAYCDMB, GERALO K DR
5535 DELMAR BLVD
ST LOUIS, MD 63112
314-361-1212
CLENOENIN, WILLIAM W P
1034 S BRENTWODD
ST LOUIS, MO 63141
314-727-1666
COATES, JAMES G IM
515 OLIVE SUITE 1604
ST. LOUIS, MO 63101
314-241-0600
COB8, MILTON L AN
4989 BARNES HOSP PLAZA
ST LOUIS, MD 63110
314-454-2858
CDBEN, LAWRENCE A N
660 S EUCLID BOX 8111
ST LOUIS, MO 63110
314-454-2385
CODO, JOHN E GS
1325 S. GRANO BLVD.
ST. LOUIS, MO 63104
314-771-7600
CODILLA, SOSTENES G GS
1610 CAMP JACKSON RO
CAHOKIA, IL 62206
314-337-9200
COHEN, EDWARD R
311 SUNWAY LANE
ST LOUIS, MO 63141
314-441-6730
COHEN, FRANK IM
300 S GRANO
ST LOUIS, MO 63103
314-658-5650
COHEN, HILLARD K IM
500 NORTHWEST PLAZA STE
ST ANN, MD 63074
314-729-9313

---

* Doctor of Osteopathy.

COHEN, ROBERT S OBG
2821 N BALLAS RO STE 255
ST LOUIS, MO 63131
314-872-9206
COKRHAME, JACK IM
1125 GRAHAM RO
FLORISSANT, MO 63031
314-838-5700
COLE, HARRY O NS
5505 DELMAR BLVO
ST LOUIS, MO 63112
314-367-8787
COLEMAN, DONALO L OM
800 N. LINOBERGH BLVO.
ST. LOUIS, MO 63167
314-694-8805
COLLINS, JACK R AN
4753 PARC ORLEANS CT.
BRIDGETON, MO 63044
COLLINS, JOHN M GP
6928 HAMPTON AVE.
ST. LOUIS, MO 63109
COLOSI, NICHOLAS J OPH
1031 BELLEVUE
SUITE #250
ST. LOUIS, MO 63117
314-781-8131
COMAS, MANUEL R OBG
514 TENBY TERR
MANCHESTER, MO 63011
314-664-9800
COMENS, PHILLIP IM
6651 CHIPPEWA
ST LOUIS, MO 63109
314-645-8688
COMENS, RUTH C AN
8826 WOOOFOX
ST LOUIS, MO 63127
314-645-8510
COMETA, TERESITA A FP
607 N. GRANO
ST. LOUIS, MO 63103
314-533-5555
CONOY, ANGELA G EM
12314 INLETRIOGE OR. APT. B
MARYLANO HGHTS., MO 63043
314-569-6000
CONE, ALFREO J OTO
2323 MANOR GROVE OR.
CHESTERFIELO, MO 63017
CONNORS, JOHN P TS
216 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-7175
CONRAO, MARSHALL B ORS
100 N EUCLIO AVE
ST LOUIS, MO 63108
314-367-7138
CONVERY, PAUL B IM
3915 WATSON
ST LOUIS, MO 63139
314-644-7100
CONWAY, PHILIP G IM
3313 HALLIOAY
ST. LOUIS, MO 63118
314-664-6086
COOK, MARVIN R
10010 KENNERLY RO
ST LOUIS, MO 63128
314-842-5600
COOKSEY, JON O CO
1035 BELLEVUE AVE.
SUITE #500
ST. LOUIS, MO 63117
314-645-4664
COOPER, BARRY J A
10004 KENNERLY RO.
ST. LOUIS, MO 63128
314-842-5252
COOPER, JAMES F GS
12255 OEPAUL OR
SUITE 830
BRIDGETON, MO 63044
314-291-8130
COOPER, THEODORE CO
THE UPJOHN COMPANY
KALAMAZOO, MI 49001
COOPER, THOMAS J PTH
10010 KENNERLY
ST LOUIS, MO 63128
314-525-1000
COOPER, THOS P EM
999 EXECUTIVE PARKWAY
P.O. BOX 27352
ST LOUIS, MO 63141
314-878-2280
COPP, RALPH IM
4989 BARNES HOSPITAL PLAZA
ST LOUIS, MO 63110
314-361-0300
COROAY, ROBT J CHP
141 N. MERAMEC
SUITE 205
ST LOUIS, MO 63105
314-725-0422
COROER, JAMES C IM
911 S. BRENTWOOO BLVO.
ST. LOUIS, MO 63105
314-862-5252

CORONADO, MARIO A OBG
10004 KENNERLY RO
ST LOUIS, MO 63128
314-842-5583
CORRY, JAMES M POA
4989 BARNES HOSP. PLAZA
ST. LOUIS, MO 63110
314-454-3080
CORVALAN, JUAN C P
SUITE 1180
1034 SOUTH BRENTWOOO
ST LOUIS, MO 63117
314-727-1666
CORWIN, KENNETH O PS
777 S NEW BALLAS RO
ST LOUIS, MO 63141
314-569-2414
COSTA, DOMINIC V GS
30 ATHERTON OAKS OR.
NOVATO, CA 94947
COSTELLO, CYRIL J GS
621 S NEW BALLAS RO
ST LOUIS, MO 63141
314-576-3770
COSTELLO, JOS P IM
950 FRANCIS PL
ST LOUIS, MO 63105
314-726-3151
COSTELLO, JOSEPH P PO
ST. LUKES HOSPITAL EAST
5535 OELMAR
ST. LOUIS, MO 63108
314-227-9298
COSTEN, WILLIAM S ORS
224 S. WOOOS MILL RO.
SUITE 330
CHESTERFIELO, MO 63017
314-576-7013
COSTIGAN, DAVIO J IM
10007 KENNERLY RO.
ST. LOUIS, MO 63128
314-849-6869
COSTRINO, JOS A OM
2425 N. BROAOWAY
ST LOUIS, MO 63102
314-241-4455
COVA, RENO R NS
12255 OEPAUL ORIVE
BRIDGETON, MO 63044
314-291-6556
COVERT, RICHARO A FP
615 SO. NEW BALLAS RO.
ST. LOUIS, MO 63141
314-569-6010
COX, MARY E P
1034 S BRENTWOOO
ST LOUIS, MO 63117
314-862-4252
COXE, WM S NS
4989 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-454-3274
COZART, DUANE E IM
224 S. WOOOS MILL RO.
CHESTERFIELO, MO 63017
314-878-6260
CRADOCK, THOMAS V POS
1401 SOUTH GRANO
ST LOUIS, MO 63104
314-776-7700
CRAFTS, DAVIO NS
1325 S GRANO
ST LOUIS, MO 63104
314-771-7600
CRAIG, ALAN G P
1035 BELLEVUE STE 202
ST LOUIS, MO 63117
314-644-6200
CRAIG, ROBERT B JR PTH
1448 OAK BLUFF LANE
ST. LOUIS, MO 63122
314-454-7190
CRALLE, ROBERT V GS
12255 OEPAUL OR
BRIOGETON, MO 63044
314-291-3787
CRAVENS, ELIZABETH M EM
P.O. BOX 466
MC CRORY, AR 72101
CRAVER, JEFFREY L PTH
7545 HOOVER AVE.
ST. LOUIS, MO 63117
314-454-7190
CRAWFORO, KATHERINE J GS
7115 WASHINGTON
ST LOUIS, MO 63130
CREPPS, LOUIS F R
14321 STRAWBRIDGE CT.
CHESTERFIELO, MO 63017
314-569-6000
CRESPIN, STEPHEN R IM
4 MC KNIGHT LANE
ST LOUIS, MO 63124
314-432-6688
CRESPO, HORACIO T FP
304 E MAIN ST.
WARRENTON, MO 63383
314-456-3340

CRESPO, REMEOIOS R FP
232 S. WOOOS MILL RO
CHESTERFIELO, MO 63017
314-434-1500
CRISCIONE, JAMES R JR EM
246 GRANO AVE.
KIRKWOOO, MO 63122
314-965-5600
CRISCIONE, JAMES R SR TS
4273 FLORA PLACE
ST LOUIS, MO 63110
314-353-1118
CRISCIONE, JAMES S AN
1837 GRASSY RIOGE
KIRKWOOO, MO 63122
314-965-7000
CROTTY, JOHN P TR
818 UPPER CAHOKIA RO
CAHOKIA, IL 62206
CROUGHAN, JACK L P
1034 S. BRENTWOOO
ST. LOUIS, MO 63117
314-361-6039
CUBILLO, ENRIQUE OR
ST. LUKE'S HOSPITALS-WEST
232 S WOOOS MILL RO
ST LOUIS, MO 63017
CUOOIHEE, ROBERT E IM
621 S. NEW BALLAS RO.
ST. LOUIS, MO 63141
314-569-6344
CUENTO, OBLENDO A GS
2425 N. BROADWAY
ST. LOUIS, MO 63102
314-241-4455
CULLUM, ALBERT G OTO
920 DORCHESTER AVE.
MIOOLESBORO, KY 40965
CUNNINGHAM, EDWIN J IM
1538 WOODLAKE OR.
CHESTERFIELO, MO 63017
314-434-3322
CUSTER, PHILIP L OPH
2501 BRICKELL AVE.
APT. 505
MIAMI, FL 33129
314-878-3505
CUSUMANO, JOSEPH V US
36 LYNNBROOK RO.
ST. LOUIS, MO 63131
CZEBRINSKI, EOWARO W IM
3555 SUNSET OFFICE OR
ST LOUIS, MO 63127
314-821-3900
OAAKE, JOHN W JR GS
1035 BELLEVUE
SUITE 314
ST. LOUIS, MO 63117
314-644-2202
OAAKE, JOHN W SR GS
48 PORTLANO PL
ST LOUIS, MO 63108
OAGARTZIKAS, A K OBG
12902 TUNORA
TOWN & COUNTRY, MO 63131
314-838-8000
OAHM, CHAS H JR OBG
1009 JULLANA OR
BALLWIN, MO 63011
314-577-6000
OALTON, ARTHUR R GS
35 N CENTRAL AVE
CLAYTON, MO 63105
314-726-5225
OAMES, RICHARO J IM
15 YORK DR
ST LOUIS, MO 63117
314-962-2170
OANDAMUOI, BABU R FP
6500 CHIPPEWA
SUITE 116
ST. LOUIS, MO 63109
314-832-7227
OANFORTH, WM H IM
WASHINGTON UNIVERSITY
ST LOUIS, MO 63130
314-889-5100
OANGANAN, CANOIDO S AN
2206 VIEWROYAL OR
ST LOUIS, MO 63131
314-371-3100
OANIELS, JOHN S IM
4989 BARNES HOSPITAL PLAZA
SUITE #17312
ST. LOUIS, MO 63110
314-454-3660
OANIS, PETER G PO
15022 CLAYMOOR CT.
CHESTERFIELO, MO 63017
314-872-7824
OANIS, PETER G III FP
1114 A RALPH TERRACE
ST. LOUIS, MO 63117
314-569-6010
OANIS, RICHARO K POS
1401 S GRANO
ST LOUIS, MO 63104
314-776-7700

DANKNER, ARNOLD IM
1570 WOODLAKE DR.
CHESTERFIELD, MO 63017
314-878-0996
DAS, ARABINDA N
20 SOUTH THIRD
BELLEVILLE, IL 62221
816-233-6663
DASH, IRA AN
6500 CHIPPEWA
ST LOUIS, MO 63109
314-481-6670
DASH, UDAYA N ORS
6500 CHIPPEWA ST
ST LOUIS, MO 63109
314-481-6670
DATUIN, ALEJANDRO M P
1420 GRATTAN
ST LOUIS, MO 63104
DAUM, WAYNE J ORS
4960 AUDUBON AVE.
ST. LOUIS, MO 63110
314-454-5030
DAVIDSON, JOHN A IM
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-576-0933
DAVIDSON, MORRIS OTO
35 N CENTRAL AVE
CLAYTON, MO 63105
314-721-5444
DAVIS, CHARLES L JR OBG
11036 RIDGECORDE
ST LOUIS, MO 63141
816-274-3036
DAVIS, GENE L DR
2821 N. BALLAS RD.
ST LOUIS, MO 63131
314-432-5284
DAVIS, MARLOU D FP
8417 MIDLAND
CHARLACK, MO 63114
314-576-1615
DAVIS, MARTIN W IM
911 S BRENTWOOD BLVD
CLAYTON, MO 63105
314-725-2100
DAVIS, MARY A P
456 N NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5707
DAVIS, RAY S PD
10327 TUXFORD DR. #2
ST. LOUIS, MO 63141
314-569-2939
DAVIS, SHELDON OTO
11155 DUNN RD
ST LOUIS, MO 63136
314-355-7770
DE CASTRO, EDWINO T AN
3933 SOUTH BROADWAY
ST LOUIS, MO 63118
314-865-3333
DE CASTRO, FERNANDO PD
2337 S. KINGSHIGHWAY BLVD.
ST LOUIS, MO 63110
314-771-7470
DE GUERRE, RONALD K U
12255 DE PAUL DR.
BRIDGETON, MO 63044
314-739-8844
DE LEON, ROMUALDO V IM
525 JEFFCO BLVD
ARNOLD, MO 63010
314-296-3322
DE MARCHENA, OCTAVIO N
SUITE 16304 BARNES HOSP PLAZ
ST. LOUIS, MO 63110
314-367-3122
DE SILVA, ANANDA PD
1125 GRAHAM RD
SUITE 15
FLORISSANT, MO 63031
314-838-5700
DE UNGRIA, PABLO C OBG
6744 CLAYTON ROAD
ST LOUIS, MO 63117
314-644-6633
DE VERA, ANSON E AN
5085 REYNOSA DR
ST LOUIS, MO 63128
314-894-1371
DEANE, LOUIS V JR IM
621 S. NEW BALLAS RD.
CREVE COEUR, MO 63141
314-569-6168
DEBNAM, JAMES W JR R
391 MADEWOOD LANE
CHESTERFIELD, MO 63017
314-355-6565
DEETHS, TONY M DR
135 LADUEMONT DR
CREVE COEUR, MO 63141
314-567-4350
DEHNER, JONATHAN D R
26 LORENZO LANE-LA DUE
ST LOUIS, MO 63124
314-997-4482
DEITCHMAN, ROBT B P
141 N. MERAMEC
CLAYTON, MO 63105
314-862-4455
DEL CARMEN, JAIME J PTH
13372 WINDBROOKE LANE
ST. LOUIS, MO 63141
314-997-4852
DEL MONTE, MONTE A OPH
1465 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-577-5660
DEL ROSARIO, HORACIO O OM
1500 EAST ROUTE A
WENTSVILLE, MO 63385
314-327-2154
DEL VALLE, FERNANDO P
777 S NEW BALLAS STE W
ST LOUIS, MO 63141
314-569-0811
DELCAU, CAREY M GP
3535 S JEFFERSON
ST LOUIS, MO 63118
314-772-5070
DENES, BELA U
5625 LINDELL BLVD.
ST. LOUIS, MO 63112
314-367-2198
DENK, ALAN F GS
3017 FALLBROOK
ST LOUIS, MO 63131
314-644-6300
DENNISON, CARL F FP
3908 S. GRAND
ST LOUIS, MO 63118
314-771-0045
DESHPANDE, V IM
15345 COUNTRY RIDGE DR.
CHESTERFIELD, MO 63017
314-344-6365
DESTOUET, JUDY R
WASHINGTON UNIVERSITY
510 SO KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-2291
DEUTCH, MAX PD
29 WILLOW HILL RD
ST LOUIS, MO 63124
DEVINE, JOHN B PUD
85 WILLMORE RD
ST LOUIS, MO 63109
314-351-4105
DEW, THOS A PUD
5505 DELMAR
ST LOUIS, MO 63112
314-454-1500
DEWALD, PAUL A P
4524 FOREST PARK BLVD
ST LOUIS, MO 63108
314-367-5817
DEWEIN, EDWARD G P
621 S NEW BALLAS RD RM
ST LOUIS, MO 63141
314-567-9871
DI LEO, SENATRO W OBG
34 RIDGETOP
ST. LOUIS, MO 63117
DI PASCO, DONALD J IM
533 COUCH AVE. SUITE 255
ST LOUIS, MO 63122
314-822-9400
DICECCO, CHARLES J IM
2545 DERHAKE RD.
FLORISSANT, MO 63033
314-831-6304
DICK, EARL P
7314 FOREST HAVEN ESTATES
ST LOUIS, MO 63123
314-487-0400
DICK, MARY M P
141 NO MERAMEC AVE.
SUITE 205
ST. LOUIS, MO 63105
314-725-1670
DICKLER, DONALD J AN
833 AUDUBON DR
ST LOUIS, MO 63105
314-454-7954
DIEHR, MAURICE A GS
1530 BEDFORD CT
APT 14
CHESTERFIELD, MO 63017
DIEMER, PETER A R
12302 IRONSTONE
ST LOUIS, MO 63131
314-878-4680
DIESTELHORST, JAMES A IM
14377 WOODLAKE DR
CHESTERFIELD, MO 63017
314-878-4430
DILLARD, BURL M GS
ST. JOS.HOSP. MED. BLDG.
533 COUCH AVE.
ST. LOUIS, MO 63122
314-821-1883
DINCER, TULAY PD
1693 AVIGNON CT.
ST. LOUIS, MO 63122
314-454-6093
DMYTRYK, EUGENE T GS
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-9928
DODGE, PHILIP R CHN
DEPT OF PED. WASHINGTON UNIV
500 S KINGSHIGHWAY
ST LOUIS, MO 63178
314-454-6086
DOHRN-WEISMAN, RENATE OBG
3478 BRIDGELAND DR.
BRIDGETON, MO 63044
314-291-3770
DOISY, PHILIP P IM
325 N KIRKWOOD RD
KIRKWOOD, MO 63122
314-822-0635
DOISY, ROBT A IM
126 E. JEFFERSON AVE.
ST. LOUIS, MO 63122
314-821-5051
DOLAN, JOHN T JR GS
3915 WATSON RD
ST LOUIS, MO 63109
314-644-7100
DOLAN, PATRICK H AN
11316 MANCHESTER
ST. LOUIS, MO 63122
314-427-6102
DONAHOE, JAMES L PD
901 CLAYTON
BALLWIN, MO 63011
314-391-6300
DONALDSON, ROBT C PS
915 N. GRAND BLVD
ST LOUIS, MO 63106
314-652-4100
DONATI, ROBT M NM
1402 S. GRAND
ST LOUIS, MO 63104
314-664-9800
DONLEY, LEO F GS
2425 N BROADWAY
ST LOUIS, MO 63102
314-241-4455
DONOVAN, JOHN F GS
10007 KENNERLY RD.
ST LOUIS, MO 63128
314-849-2727
DONOVAN, THOS J OTO
950 FRANCIS PLACE
SUITE 309
ST LOUIS, MO 63105
314-725-4994
DOOLEY, JOSEPH M JR N
ST. LUKES EAST MED. BLDG
5505 DELMAR SUITE 307
ST LOUIS, MO 63112
314-367-7320
DORTON, ROBT K IM
911 S BRENTWOOD BLVD
ST LOUIS, MO 63105
314-862-5252
DOUGHERTY, CHARLES H PD
13131 TESSON FERRY RD.
ST LOUIS, MO 63128
314-843-0500
DOWELL, GEO H P
3009 N BALLAS RD.
SUITE #110
ST LOUIS, MO 63131
314-567-5000
DOWNEY, RICHARD S GS
9016 LAWN AVE.
BRENTWOOD, MO 63144
314-367-6140
DOYLE, CHAS R GS
9053 MONMOUTH DR.
ST LOUIS, MO 63117
DRACE, CHARLES C JR GS
19 E LOCKWOOD AVE
ST LOUIS, MO 63119
314-962-3200
DRAKE, WILLIAM L JR PTH
MISSOURI BAPTIST HOSP
3015 N BALLAS RD
ST LOUIS, MO 63131
314-432-1212
DRESCHER, EMMETT B GS
619 HAVERFORD RD.
ST LOUIS, MO 63124
314-725-8444
DREWS, ROBT C OPH
211 N MERAMEC
ST LOUIS, MO 63105
314-721-0854
DREY, NORMAN W IM
950 FRANCIS PL STE 205
CLAYTON, MO 63105
314-863-1211
DREYER, CARL J OBG
45 GLEN ROAD
WEBSTER GROVES, MO 63119
314-961-2981
DROZDA, JOSEPH P JR CD
12255 DEPAUL DR.
BRIDGETON, MO 63044
314-291-8824

DRUCK, NORMAN S OTO
35 N. CENTRAL AVE.
CLAYTON, MO 63105
314-721-5444
OU MONTIER, CHARLES C.O. R
4000 CLEVELANO
ST. LOUIS, MO 63110
314-865-4710
OUBUQUE, THEOOORE J JR GS
1035 BELLEVUE
ST LOUIS, MO 63117
314-644-6300
OUEMLER, ROBT H OBG
12166 BIG BENO BLVO
KIRKWOOO, MO 63122
314-821-3500
OUFFY, FRANCIS G AN
8116 UNIVERSITY OR
ST LOUIS, MO 63105
314-361-1212
DUGAS, HENRY C FP
3737 N. KINGSHIGHWAY BLVD.
ST. LOUIS, MO 63115
314-382-0477
OUGGAN, JOHN J JR OBG
533 COUCH AVENUE
ST LOUIS, MO 63122
314-822-1259
OUMADAG, VIRGILIO P PTH
3015 N BALLAS RO
ST LOUIS, MO 63131
314-432-1212
OUNN, ROBERT C JR NS
621 S. NEW BALLAS RO.
ST. LOUIS, MO 63141
314-569-3620
OUREL, JUSTIN H OBG
2821 N. BALLAS RD.
ST. LOUIS, MO 63131
314-872-7400
DURR, JON W PTH
2204 WELSCH INOUSTRIAL CT.
ST LOUIS, MO 63141
314-432-1850
OUSEK, OENNIS A ORS
12615 OLO TESSON RO.
ST. LOUIS, MO 63128
314-849-0311
OUVALL, JOSEPH M O
2821 N. BALLAS
TOWN & COUNTRY, MO 63131
314-432-3033
OWYER, JAMES G IM
13611 BARRETT OFFICE OR.
BALLWIN, MO 63011
314-965-9980
OWYER, JOSEPH C IM
13611 BARRETT OFFICE DR.
BALLWIN, MO 63011
314-965-9980
OYER, OALLAS J IM
3915 WATSON RO
ST LOUIS, MO 63109
314-644-7100
OZUNOZEV, PENCO T FP
16 HAMPTON VILLAGE PLAZA
ST LOUIS, MO 63109
314-832-2191
EACHEMPATI, RAMA G NM
6304 S. GRANO BLVO.
ST. LOUIS, MO 63111
314-353-1706
EACHEMPATI, UMA R OBG
14499 LAOUE RO.
CHESTERFIELO, MO 63017
314-464-1000
EAOES, JOS W PS
4910 FOREST PARK
ST LOUIS, MO 63108
314-367-5012
EAGLETON, MARK O R
MARI DE VILLA RETIREMENT CTR
13900 CLAYTON RO.
MANCHESTER, MO 63011
EAKIN, KENNETH M FP
9129 COROOBA
ST. LOUIS, MO 63126
314-569-6010
EBEL, EUGENE H PO
11115 NEW HALLS FERRY RD
FLORISSANT, MO 63033
314-838-5900
EBERLE, VINCENT L OBG
141 N MERAMEC AVE
ST LOUIS, MO 63105
314-863-2311
ECK, BIRKLE IM
1819 CAMBERLY ROAO
ST LOUIS, MO 63131
314-726-2828
ECKER, DESIDER B FP
222 GLENELLEN PL
SUN CITY CENTER, FL 33570
ECKERT, CLARENCE T GS
2295 GULF OF MEXICO OR
LONGBOAT KEY, FL 33548
EOELE, EUGENE H FP
3890 FEOERER PL
ST LOUIS, MO 63116
314-352-3770

EDELMAN, ALAN H OR
2821 N BALLAS RD
ST LOUIS, MO 63131
314-432-5284
EOWAROS, JAMES E CHP
WOOOS MILL 40 MEO CTR.
14377 WOODLAKE OR 301
CHESTERFIELO, MO 63017
314-569-6586
EOWAROS, JOS C IM
4989 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-367-3744
EGAN, ROBT C GS
1034 S. BRENTWOOO BLVO.
SUITE 776
ST LOUIS, MO 63117
314-863-6006
EGAN, THOS F R
9852 NORTHBRIOGE
ST LOUIS, MO 63124
314-434-1500
EGBEOINA, TAIWO GS
1146-A CASA BRAZILIA CT.
ST. LOUIS, MO 63129
EGGLESTON, HARRY C OPH
621 S NEW BALLAS RO
ST LOUIS, MO 63141
314-872-8824
EGGLESTON, THOS F OPH
621 S NEW BALLAS
ST LOUIS, MO 63141
314-872-8824
EHRLICH, CARL F OTO
3009 N BALLAS RO.
SUITE 212
ST LOUIS, MO 63141
314-567-6533
EIOELMAN, JACK R P
141 N MERAMEC
ST LOUIS, MO 63105
314-862-0555
EISEN, ARTHUR Z O
BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-454-2641
EKUNNO, JOSIAH O OBG
BOX 5340
ST. LOUIS, MO 63115
314-385-9904
ELCOCK, DEVERA M FP
10010 KENNERLY RO
ST. LOUIS, MO 63128
314-525-1000
ELOER, DONALD G FP
2202 S 12TH. STREET
ST. LOUIS, MO 63104
314-772-8348
ELIASSON, SVEN G N
660 S EUCLIO
ST LOUIS, MO 63110
314-454-2385
ELLER, CHAS H PH
250 E ALAMEOA
SANTA FE, NM 87501
ELLERSIECK, OOROTHY M FP
10437 EWELL
ST LOUIS, MO 63137
ELLSASSER, JAMES C ORS
1034 BRENTWOOD BLVO
ST LOUIS, MO 63117
314-725-0881
EMERAN, GEORGE J U
600 NORTH UNION
ST LOUIS, MO 63108
314-367-1828
EMERSON, OANIEL P EM
615 S. NEW BALLAS RD.
CREVE COUER, MO 63141
314-569-6090
EMERSON, WILLIAM A IM
11155 OUNN RO STE 3-11E
ST LOUIS, MO 63136
314-355-5597
EPSTEIN, JAMES M IM
ST. LOUIS MEOICAL CLINIC
3009 NO. BALLAS RO.
ST LOUIS, MO 63131
314-432-1111
ERNST, EOWIN C III OR
12457 BALWYCK
ST. LOUIS, MO 63131
314-878-4680
ERNST, EDWIN C JR R
14377 WOODLAKE DR
SUITE 110
CHESTERFIELD, MO 63017
314-291-6160
ERNST, JOS G IM
325 N KIRKWOOO RO
KIRKWOOO, MO 63122
314-966-7265
ERNST, RICHARO E R
14377 WOOOLAKE OR
SUITE 110
CHESTERFIELO, MO 63017
314-878-4680
ERNST, ROLANO P R
12327 CREEKHAVEN
ST LOUIS, MO 63131
314-878-4680

ESCOBEDO, BOLIVAR M OBG
13975 MANCHESTER ROAO
MANCHESTER, MO 63011
314-394-6070
ESCOFFERY, RICHARD F OPH
EAST PAVILION SUITE 17413
4949 BARNES HOSPITAL
ST LOUIS, MO 63110
314-367-1181
ESCUDER, CLARA E PD
7320 TULANE
UNIVERSITY CITY, MO 63130
314-644-2566
ESSLINGER, ARTHUR T OBG
816 IOLEWILO WAY
SIESTA KEY
SARASOTA, FL 33581
ESTHER, JAMES H IM
3009 N BALLAS SUITE 100
ST. LOUIS, MO 63131
314-432-1111
ESTRAOA, CORAZON O IM
11155 OUNN RO
ROOM 104
ST LOUIS, MO 63136
314-355-0060
ESTRAOA, JESUS I FP
1610 MASON RO.
ST LOUIS, MO 63131
314-355-0060
ETHEREDGE, EOWARO E GS
WASH UNIV OEPT SURG
4989 BARNES HOSP PLZ
ST LOUIS, MO 63110
314-454-3081
ETIENNE, ROBT B IM
6000 WESTMINSTER
ST LOUIS, MO 63112
314-721-4499
ETO, JACKSON K PO
6651 CHIPPEWA ST
ST LOUIS, MO 63109
314-644-2727
EVANS, LAWRENCE G JR ORS
1325 S GRANO
ST LOUIS, MO 63104
314-771-7643
EVENS, RONALO G R
510 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-367-2131
EVERSOLL, NORTON J OS
1455 TYLER ST
HOLLYWOOO, FL 33020
EXARHOU, KLARK GS
777 S NEW BALLAS ROAO
ST LOUIS, MO 63141
314-432-2811
EYERMAN, EOWARO L N
1035 BELLEVUE AVE
SUITE 304
ST LOUIS, MO 63117
314-644-7177
FABIAN, LEONARO W AN
660 S EUCLIO
ST LOUIS, MO 63110
314-454-2858
FABITO, OANIEL C GS
3009 N. BALLAS RO.
SUITE 202
ST. LOUIS, MO 63131
314-872-8345
FABITO, MELINOA A IM
P. O. BOX 446
#8 VILLAGE CENTER
EUREKA, MO 63025
314-938-4956
FAIR, WM R U
4960 AUOUBON
ST LOUIS, MO 63110
314-454-3701
FALLON, RICHARO H GS
4949 BARNES HOSP PLAZA
STE 16306
ST LOUIS, MO 63110
314-362-7831
FARON, MARK A IM
645 S. NEW BALLAS APT. 2B
ST. LOUIS, MO 63141
FARRELL, JOHN S IM
12255 DEPAUL OR.
BRIDGETON, MO 63044
314-291-8824
FARRELL, ROBT J IM
9060 SARANAC OR
ST LOUIS, MO 63117
FARZANA, FARIDA P
1245 GRAHAM RO.
FLORISSANT, MO 63031
314-644-8326
FATHMAN, ANTHONY E U
224 S. WOOOS MILL RO.
SUITE 510
CHESTERFIELO, MO 63017
314-434-3433
FEOAK, MICHAEL J IM
1759 GOLDENHORN CT.
MARYLANO HGHTS, MO 63043
314-469-3811

FEHLMAN, BERNARD F AN
1325 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-771-7600

FEHRENBACHER, KIM A FP
1810 CHARLESTON AVE.
MATTOON, IL 61938
217-234-7000

FEIBEL, ROBT M OPH
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63117
314-727-6716

FEIT, ROBERT M U
6500 CHIPPEWA ST.
ST. LOUIS, MO 63109
314-351-0155

FELDMAN, DAVID IM
11501 LAKESHORE DR
ST LOUIS, MO 63141
314-569-2611

FELDMAN, MARK R OBG
1040 N. MASON RD.
ST. LOUIS, MO 63141
314-434-6020

FELICIANO, WILFRIDO C PS
11155 DUNN RD.
SUITE 202E
ST. LOUIS, MO 63136
314-355-5333

FELIX, ROBT H P
10501 INDIAN WELLS DR
SUN CITY, AZ 85351

FELLER, HAROLD H FP
NORTHLAND MD BLD ST 201
ST LOUIS, MO 63136
314-382-3334

FELLHAUER, CARL M ORS
1035 BELLEVUE
RICHMOND HEIGHT, MO 63117
314-645-5990

FELTS, JAMES A AN
45 BERRY RD PARK
ST LOUIS, MO 63122
314-454-2858

FERGUSDN, THOS B CDS
4989 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-361-0122

FERRENDELLI, JAMES A N
660 S EUCLID
ST LOUIS, MO 63110
314-454-2385

FERRIS, CHARLES W JR PTH
P.O. BOX 1442
BALLWIN, MO 63011
314-432-1212

FERRY, RICHARD J N
141 MERAMEC ST
CLAYTON, MO 63105
314-726-3202

FEUTZ, EDWARO P R
#10 HOSPITAL DR.
ST. PETERS, MO 63376
314-447-6600

FIGUEROA, EDDUYN CHP
77 WEST PORT PLAZA
SUITE 359
ST LOUIS, MO 63141
314-434-6260

FIGUERDA, ELISED D IM
11155 DUNN RD
ST LOUIS, MO 63136
314-355-2180

FINGERHOOD, MARVIN G IM
1195 CIMARDN OR
ST LOUIS, MO 63132

FINGERT, HYMAN H P
4542 MARYLAND AVE.
ST LOUIS, MO 63108
314-367-6623

FINK, LEROY L GS
11155 DUNN RD STE 206
ST LOUIS, MO 63136
314-741-3400

FINKEL, BARNEY W FP
6508 W FLORISSANT
ST LOUIS, MO 63136
314-385-7500

FINN, MURRAY E P
1035 BELLEVUE STE 202
ST LOUIS, MO 63117
314-644-6200

FINNEGAN, JOS V IM
1035 BELLEVUE ST
ST LOUIS, MO 63117
314-644-6444

FIORDELISI, ROCCD J GS
700 HAVERFORD RD
ST LOUIS, MO 63124
314-644-4220

FISCHBEIN, LEWIS C RHU
4949 BARNES HOSP. PLAZA
SUITE #16422
ST. LOUIS, MO 63110
314-367-9595

FISCHER, JOHN R P
12255 DEPAUL DR
BRIDGETON, MO 63044
314-291-2500

FISCHER, RDBERT IM
533 COUCH AVE
ST. LOUIS, MO 63122
314-966-0500

FISH, RICHARD G DPH
4370 FOREST DE VILLE DR
ST LOUIS, MO 63129

FISH, VIRGIL O GS
2500 TOWN & COUNTRY LA.
ST LOUIS, MO 63131
314-721-5488

FISHER, LINDA IM
5535 DELMAR
ST LOUIS, MO 63112
314-361-1212

FISHMAN, JOHN J AN
3015 N BALLAS RO
ST LOUIS, MO 63131
314-569-5188

FISHMAN, NDRMAN IM
224 S. WOODS MILL RD.
SUITE 220
CHESTERFIELD, MO 63017
314-469-6224

FITZGERALD, LEO P OBG
BETHESDA HOME
9645 BIG BEND
ST LOUIS, MO 63122

FIVIAN, GERALD J OPH
2821 N BALLAS RD
ST LOUIS, MO 63131
314-432-2655

FLANCE, ISRAEL J PUD
4652 MARYLAND
ST LOUIS, MO 63108
314-267-3113

FLANIGAN, GEO D OBG
100 N EUCLID AVE.
SUITE 902
ST LOUIS, MO 63108
314-361-3060

FLEISCHMAN, JAY A OPH
3655 VISTA AVE
ST. LOUIS, MO 63110
314-772-9200

FLEISHMAN, ALFRED IM
APT#106 920 GUELBRETH LANE
ST LOUIS, MO 63141

FLETES, JAMES W FP
7270 NATURAL BRIDGE AVE
ST LOUIS, MO 63121
314-383-2156

FLIESHER, EDWARD B PO
621 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-6150

FLORES, JHONSON E AN
12129 COUNTRY MANOR
ST. LOUIS, MO 63141
314-434-1500

FLORES-VEGA, CARLDS H IM
3915 WATSON RO
ST LOUIS, MO 63109
314-644-7100

FLORO, KENNETH E JR GS
1035 BELLEVUE
SUITE 314
ST. LOUIS, MO 63117
314-644-2202

FLORO, MARIANO N GS
11115 NEW HALLS FERRY R
FLORISSANT, MO 63033
314-838-5600

FLDTTE, BERNARD H IM
6 LILA LANE
FLORISSANT, MO 63033

FLOTTE, SYLVESTER A IM
466 RUNNYMEDE DR
ST LOUIS, MO 63141
314-837-1130

FLUG, ERIC J PD
533 COUCH
KIRKWOOD, MO 63122
314-966-3324

FLURY, KIRK E IM
533 COUCH AVE. STE. 180
KIRKWOOD, MO 63122
314-822-3122

FLYNN, EDWARO P IM
9730 E WATSON RD
ST LOUIS, MO 63126
314-843-7000

FLYNN, JOHN T FP
3211 S GRAND BLVD
ST LOUIS, MO 63118
314-771-2078

FLYNN, JOS E GS
621 S NEW BALLAS
ST LOUIS, MO 63141
314-872-8386

FOGARTY, WILLIAM M JR IM
3915 WATSON RD
ST LOUIS, MO 63109
314-644-7100

FORAND, JOSEPH M AN
5900 APPLE VALLEY
AFFTON, MO 63123
314-832-1839

FORD, LEE T DRS
WASHINGTON UNIVERSITY
4960 AUDUBON
ST LOUIS, MO 63110
314-454-2979

FORD, THDMAS E OPH
APT 602
316 N. GREEN BAY RD.
WAUKEGAN, IL 60085

FDRKIN, MARY P FP
615 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
569-6000

FDRSMAN, WALOO W IM
9436 GRAVOIS
ST LOUIS, MO 63123
314-631-2421

FORSYTH, B. TDDD IM
100 N EUCLID
ST LOUIS, MO 63108
314-367-8811

FORTI, JOHN J FP
1434 CHAMBERS
ST LOUIS, MO 63135
314-429-0859

FOX, LEON J ORS
903 SO. WARSON RD.
ST LOUIS, MO 63124

FDX, ROBT E IM
6744 CLAYTON RD
ST LOUIS, MO 63117
314-645-8050

FRANCISCO, DOMINIC S R
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-4350

FRANK, ALVIN R P
4524 FOREST PARK AVE.
ST LOUIS, MO 63108

FRANKLIN, CAROL S EM
2005 BASSTON OR.
ST. LOUIS, MO 63141
314-878-6729

FRANKLIN, HAROLD A IM
16 HAMPTON VILLAGE PLAZA
ST LOUIS, MO 63109
314-752-4600

FRANKLIN, MAX S CD
585 COEUR DE ROYALE #401
ST LOUIS, MO 63141

FRASER, OANL M TS
1035 BELLEVUE AVE
ST LOUIS, MO 63117
314-644-6300

FRAWLEY, THOS F IM
OFF GRAD. MED. EDUCATION
615 S. NEW BALLAS RO.
ST. LOUIS, MO 63141
314-569-6934

FREDERICK, RAYMONO O GS
6125 CLAYTON AVE. SUITE 424
ST. LOUIS, MO 63139
314-645-8200

FREEDMAN, RUTH S OPH
10287 CLAYTON ROAD
ST LOUIS, MO 63124
314-991-1172

FREEL, JAMES H OBG
1325 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-776-8100

FREEMAN, CARY H OPH
115 TOWNSQUARE DR.
NEWPORT NEWS, VA 23607

FREIMAN, S. MICHAEL OBG
1034 S. BRENTWOOD #616
ST LOUIS, MO 63117
314-727-4333

FRENKEL, RONALD B OS
694-A TEMPO TRAIL OR.
CREVE COEUR, MO 63141
314-576-3028

FRIEDMAN, IRA J PO
2428 WOODSON RD
OVERLAND, MO 63114
314-427-2424

FRIEDMAN, PAUL L AN
7332 CORNELL
ST LOUIS, MO 63130
314-768-8300

FRIEDMAN, ROBT H PO
2821 N BALLAS RD
ST LOUIS, MO 63131
314-432-8602

FRIEOMAN, WILLIAM H OTO
1325 SOUTH GRAND BLVD.
2ND FLOOR
ST. LOUIS, MO 63104
314-771-8887

FRIEDRICH, ANTHONY P EM
12303 DEPAUL DR
BRIDGETON, MO 63044
314-344-6360

FRIEORICH, ERNST R OBG
4911 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-454-2330

FRIES, ARMAND D OTO
11 W GEYER LN
ST LOUIS, MO 63131
314-842-5600

FRIES, JOHN W R
10010 KENNERLY ROAO
ST LOUIS, MO 63128
314-842-5600
FRISKEL, ARTHUR K IM
7500 DEVONSHIRE
ST LOUIS, MO 63119
314-647-0445
FRUMSON, GUY H ORS
12255 DEPAUL OR
BRIDGETON, MO 63044
314-739-7654
FRY, ROBERT O GS
456 N. NEW BALLAS RO.
ST. LOUIS, MO 63141
314-569-0130
FUJITA, MILTON T CHP
12161 POINT OAK RO
ST LOUIS, MO 63131
314-644-8001
FULEIHAN, FARIO M U
621 S NEW BALLAS
ST LOUIS, MO 63141
314-569-6296
FUNSCH, ROBERT E ORS
6744 CLAYTON RO
ST LOUIS, MO 63117
314-645-4600
FURLA, AUGUST J FP
57 BROAOVIEW OR
ST LOUIS, MO 63105
314-962-4480
GABRAWY, LAILA G OPH
1040 N. MASON RD.
CREVE COEUR, MO 63141
314-469-3601
GADO, MOKHTAR H N
510 S. KINGSHIGHWAY
ST. LOUIS, MO 63110
314-454-2981
GAFFNEY, CALOWELL J GS
100 N. EUCLIO AVE.
ST LOUIS, MO 63108
GAGLIAROO, JOSEPH P
141 N MERAMEC RM 303
CLAYTON, MO 63105
314-726-5390
GALAKATOS, ANOREW E OBG
777 S NEW BALLAS ROAO
ST LOUIS, MO 63141
314-569-0055
GALAN, ALEJANORO A GS
12255 OE PAUL OR. SUITE 160
BRIDGETON, MO 63044
314-291-3781
GALE, ARTHUR H IM
2428 WOOOSON RO
OVERLANO, MO 63114
314-427-2424
GALL, IRA C OBG
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5016
GALSTER, ALLEN O GS
573 CARLA CT
MOUNTAIN VIEW, CA 94040
GANOLMAYR, JACOB M FP
1040 N MASON RO
ST LOUIS, MO 63141
314-434-7400
GANSLOSER, WILBERT M P
950 FRANICS PL
CLAYTON, MO 63105
314-727-0076
GANTNER, GEO E JR PTH
1402 S. GRAND BLVO.
ST LOUIS, MO 63104
314-664-9800
GANTZ, JOHN A NM
10 MUIRFIELO LANE
ST LOUIS, MO 63141
314-768-8276
GARCIA, FLORENTINA U PO
2601 NORTH WHITTIER ST
ST LOUIS, MO 63113
314-622-5355
GARCIA-FERRER, EDUARDO A P
777 S. NEW BALLAS
ST LOUIS, MO 63141
314-567-5011
GARFINKEL, BERNARO T IM
522 N NEW BALLAS RD
ST LOUIS, MO 63141
314-567-1902
GARRIGA, FRANCISCO J IM
11115 NEW HALLS FERRY RO
FLORISSANT, MO 63033
314-921-4420
GARVIN, PAUL J GS
1325 S. GRANO BLVD.
ST. LOUIS, MO 63104
314-771-7600
GARVIN, TOOO J GS
7023 NORTHMOOR
UNIVERSITY CITY, MO 63105
314-726-1952
GATCHALIAN, FELICITAS Z IM
2713 LACLEOE STA RD APT D
MAPLEWOOO, MO 63143
314-781-0229
GAVINI, RAJENDRA R GS
6500 CHIPPEWA STREET
SUITE 125
ST LOUIS, MO 63109
314-481-6670
GEARHART, DAVID L OBG
456 N. NEW BALLAS RO
ST LOUIS, MO 63141
314-569-2022
GEARHART, WILBUR H P
3009 N. BALLAS RO.
SUITE 110
ST LOUIS, MO 63131
314-567-5000
GEONEY, WM B IM
806 MERAMEC STATION RO
VALLEY PARK, MO 63088
314-825-2423
GEEKIE, ROBERT C III IM
653 S NEW BALLAS RD.
APT. B2O
ST. LOUIS, MO 63141
314-569-6000
GEISE, AUGUST W NS
5505 DELMAR
ST LOUIS, MO 63112
314-367-8787
GEISSE, GUILLERMO R
OEPT OF RAOIOLOGY
6150 OAKLAND
ST LOUIS, MO 63139
314-645-8505
GELLMAN, ELLIOT F PO
456 N NEW BALLAS RO
ST LOUIS, MO 63141
314-872-8662
GENNAOUI, JAO M DR
12660 LAMPLIGHTER SQ.
SUITE C
ST. LOUIS, MO 63128
314-842-3560
GENTSCH, KENNETH W CD
ST. LOUIS MEOICAL CLINIC
3009 N. BALLAS RO.
ST LOUIS, MO 63131
GEORGE, PHILIP G ORS
1034 S BRENTWOOO BLVO
ST LOUIS, MO 63105
314-721-7325
GERMUTH, FREDERICK G PTH
615 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-6000
GEROWIN, LANCE GS
9408 W MILTON
ST LOUIS, MO 63114
314-427-4616
GERST, ALOYSIUS C PO
11115 NEW HALLS FERRY
FLORISSANT, MO 63033
314-837-2808
GERST, JAMES PO
11115 NEW HALLS FERRY RO
FLORISSANT, MO 63033
GHOSH, NELLIE CO
5505 OELMAR BLVO.
ST. LOUIS, MO 63112
314-361-3386
GIESELMAN, RALPH V IM
224 S. WOOOS MILL RO.
CHESTERFIELO, MO 63017
314-878-6260
GILOEN, JEROME J ORS
456 N. NEW BALLAS RO.
SUITE 369
ST LOUIS, MO 63141
314-569-1830
GILLESPIE, WILLIAM J TS
621 S. NEW BALLAS RO.
ST. LOUIS, MO 63141
314-569-1010
GILPIN, DORIS C CHP
7452 AMHERST AVE
ST LOUIS, MO 63130
314-993-2418
GILULA, LOUIS A DR
250 OIELMAN RO
ST LOUIS, MO 63124
314-454-2191
GIMPLESON, RICHARO J OBG
14377 WOOOLAKE OR.
CHESTERFIELO, MO 63017
314-878-1866
GINSBURG, JORDAN H ORS
456 N NEW BALLAS ROAO
SUITE 369
ST LOUIS, MO 63141
314-569-1830
GINTHER, JAMES W JR IM
9616 LACKLAND
OVERLANO, MO 63114
314-427-1855
GLAONEY, JOHN H OTO
100 N EUCLIO AVE-STE 70
ST LOUIS, MO 63108
314-361-8300
GLASSMAN, A. DANIEL IM
950 FRANCIS PLACE
ST. LOUIS, MO 63105
726-6512
GLAZER, HARVEY S OR
MALLINCROOT INST. OF RAO.
510 S. KINGSHIGHWAY BLV
ST. LOUIS, MO 63110
314-454-2000
GLINES, MICHAEL H PD
12 MERAMEC HGTS SHOPPING CTR
ARNOLO, MO 63010
314-296-4466
GLOGOVAC, S. VIC ORS
SUITE #360
12255 DEPAUL OR.
BRIDGETON, MO 63044
314-291-7181
GNAOE, ALBERT J GS
3606 GRAVOIS AVE
ST LOUIS, MO 63116
314-772-7380
GOOAR, SHARON A FP
9900 CRESTWICK OR
ST. LOUIS, MO 63128
314-843-1266
GOEBEL, JOAN M AN
5128 JAMIESON
ST LOUIS, MO 63119
GOELL, ROBT S OBG
SUITE #16306
4949 BARNES HOSP. PLAZA
ST LOUIS, MO 63110
361-3885
GOLO, JONATHAN A NS
12255 DEPAUL DRIVE
SUITE 830
BRIDGETON, MO 63044
314-291-6556
GOLOFARB, ALVIN GS
514 COEUR OE ROYALE OR
#405
ST LOUIS, MO 63141
314-569-0130
GOLDGABER, ALBERTO IM
8631 DELMAR
SUITE 4 LOWER LEVEL
ST LOUIS, MO 63124
314-991-5717
GOLOMAN, ARNOLD M IM
522 N NEW BALLAS RO
ST LOUIS, MO 63141
314-567-1902
GOLOMAN, GORDON M OBG
77 WESTPORT PLAZA
SUITE 265
ST. LOUIS, MO 63141
314-878-7333
GOLOMAN, HYMAN J O
100 N. EUCLIO
ST LOUIS, MO 63108
314-361-1330
GOLOMAN, MELVIN L IM
8631 OELMAR
ST LOUIS, MO 63124
314-993-2400
GOLORING, OAVIO PDC
500 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-6000
GOLORING, SIONEY NS
660 S EUCLIO
ST LOUIS, MO 63110
314-454-3274
GOLDSTEIN, BENJAMIN IM
2428 WOOOSON RO
ST LOUIS, MO 63114
314-427-2424
GOLOSTEIN, MARCY A PS
950 FRANCIS PLACE
CLAYTON, MO 63105
314-725-9105
GOLTSCHMAN, JOHN P OPH
900 N HWY 67 LINOBERG
FLORISSANT, MO 63031
314-838-0300
GOMEZ, CESAR A GS
3009 NORTH BALLAS RO.
SUITE 114
ST LOUIS, MO 63131
314-569-2333
GONZALEZ, ALICIA O P
2821 N BALLAS RO.
ST. LOUIS, MO 63131
314-432-7375
GOODMAN, NATHANIEL FP
#9 SCARSDALE LANE
ST LOUIS, MO 63117
GORAN, OANIEL O O
611 OLIVE
ST. LOUIS, MO 63101
314-241-3221
GORAN, DAVID A IM
7171 DELMAR BLVD.
UNIVERSITY CITY, MO 63130
314-863-0033
GOROON, JAMES M OPH
11155 DUNN RO
ST LOUIS, MO 63136
314-355-7300
GORLA, WAYNE O IM
27 HARNEYWOLD
ST LOUIS, MO 63136
314-355-2300

GORMAN, JOHN C IM
224 S. WOODS MILL RO.
CHESTERFIELO, MO 63017
314-878-7220
GOULO, DANIEL B AN
621 S. NEW BALLAS RO.
ST. LOUIS, MO 63141
314-872-8221
GOULD, RONALO J GE
1035 BELLEVUE AVE.
RICHMONO HTS., MO 63017
314-645-1344
GRADY, RONALD K IM
224 S. WOOOS MILL RD. #370
CHESTERFIELO, MO 63017
314-878-2467
GRAFF, RALPH J GS
P O BOX 14109
ST LOUIS, MO 63177
314-367-8060
GRAGNANI, JOHN A PM
615 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-6041
GRAND, M. GILBERT OPH
EAST PAVILION SUITE 17413
4949 BARNES HOSP. PLAZA
ST. LOUIS, MO 63110
314-367-1181
GRANETO, JOS A FP
5521 S BROAOWAY
ST LOUIS, MO 63111
314-353-1911
GRANT, JOHN M IM
GRANT MEDICAL CLINIC
114 N. TAYLOR AVE.
ST LOUIS, MO 63108
314-534-8600
GRANT, NEVILLE IM
GRANT MEOICAL CLINIC
114 N. TAYLOR AVE.
ST LOUIS, MO 63108
314-534-8600
GRAUL, WALTER P ORS
4944 LINDELL BLVD.
ST. LOUIS, MO 63108
GRAVISS, EDWARD R DR
1465 S. GRANO
ST. LOUIS, MO 63104
314-577-5600
GRAY, GARY J IM
911 S BRENTWOOD
ST LOUIS, MO 63105
314-727-5336
GREANEY, JOHN F GP
6829-A VIRGINIA AVE.
ST. LOUIS, MO 63111
GREEN, MORTON R OPH
111 W. LINCOLN
BELLEVILLE, IL 62221
618-234-1774
GREEN, WM R FP
7200 MANCHESTER
ST LOUIS, MO 63143
314-645-7744
GREENMAN, MARSHALL B PD
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-872-8752
GREGORY, JOHN G U
1325 S GRANO
ST LOUIS, MO 63104
314-771-7600
GRESICK, ROBT J PTH
11 COACH-N-FOUR LANE
ST LOUIS, MO 63131
GRIEGE, CHAS W CO
493 ST FRANCOIS
FLORISSANT, MO 63031
314-831-8600
GRIGGS, JAMES Y GS
1034 S. BRENTWOOD
SUITE #776
ST LOUIS, MO 63117
314-863-6006
GRIMES, JAMES B ORS
18 S. KINGSHIGHWAY #15L
ST. LOUIS, MO 63108
314-454-2770
GRONEMEYER, PAMELLA S PTH
ST. ELIZABETH MEO CTR.
2100 MAOISON AVE.
GRANITE CITY, IL 62040
618-798-3504
GRUBB, ROBT L NS
BARNES HOSP NEUROSURGER
4901 BARNES HOSP PLZ
ST LOUIS, MO 63110
314-454-3274
GRUNDMANN, WM H ORS
12028 ROSEVALLEY LANE
ST LOUIS, MO 63138
314-721-1700
GULICK, C. RICHARD OBG
1034 S BRENTWOOD
ST LOUIS, MO 63117
314-725-9300
GULICK, CHARLES R OBG
1034 S BRENTWOOO BLVO
ST LOUIS, MO 63117
314-725-9300
GUNAWAROHANA, H P P
2120 MAOISON AVE.
GRANITE CITY, IL 62040
618-876-5500
GUNN, WALTER T FP
4617 OAHILA AVE
ST LOUIS, MO 63116
314-752-2120
GUPTA, JITENDRA K IM
14377 WOOOLAKE #101
CHESTERFIELD, MO 63017
314-434-7475
GUPTA, NARAYAN C FP
6331 OEVONSHIRE
ST LOUIS, MO 63109
314-771-7388
GURSAHANI, MOHAN U
1034 S BRENTWOOD BLVO
STE 854
ST LOUIS, MO 63117
314-863-3800
GUTIERREZ-MEOINA, ERNESTO IM
525 ST. FRANCOIS
FLORISSANT, MO 63031
837-3721
GUTWEIN, MICHAEL B IM
3009 NORTH BALLAS RD.
SUITE 100
ST. LOUIS, MO 63131
314-432-1111
GUZE, SAML B P
4940 AUOUBON AVE
ST LOUIS, MO 63110
314-454-3875
HABERT, EOWARO R R
10010 KENNERLY
ST LOUIS, MO 63128
314-842-5600
HAODOCK, JAMES N P
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-3740
HAGAN, DANL J R
621 S NEW BALLAS RO
ST LOUIS, MO 63141
314-569-6031
HAGEBUSCH, OMER E PTH
15201 OLIVE ST RD APT 3
CHESTERFIELD, MO 63017
HAGEMANN, PAUL O IM
224 S. WOOOS MILL RD.
CHESTERFIELD, MO 63017
314-878-7220
HAGEN, DUANE Q P
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-6295
HAGEN, GARRETT A IM
1035 BELLEVUE
RICHMOND HGHTS, MO 63117
314-645-3400
HAHN, YORAM OBG
1035 BELLEVUE AVENUE
SUITE 318
ST. LOUIS, MO 63117
314-644-3288
HAINLINE, SARAH W OBG
4104 UPTON CT
ST. LOUIS, MO 63116
314-832-3930
HALFORD, RICHARO PS
1040 N MASON RD STE 205
ST LOUIS, MO 63141
314-878-4530
HALL, EUGENE W FP
116A S FLORISSANT RO
FERGUSON, MO 63135
314-521-0907
HALL, LEE A OBG
3716 HULEN PARK
FORT WORTH, TX 76109
817-336-9371
HALL, PRESTON C FP
39 WOOOCREST OR
ST LOUIS, MO 63124
HALL, WM K O
P O BOX 661
ST CHARLES, MO 63301
314-946-7608
HALLAZGO, SANTIAGO Y FP
11140 MANCHESTER RO
ST LOUIS, MO 63122
314-821-1414
HALLEY, R H U
11155 OUNN RO STE 214
ST LOUIS, MO 63136
314-355-5544
HALLINGER, EARL S D
2209 KIPP COURT
ST. LOUIS CO., MO 63136
HALLORAN, MARK J IM
621 S NEW BALLAS RO
ST LOUIS, MO 63141
314-432-3456
HALVERSON, JOHN D GS
4989 BARNES HOSPITAL PLAZA
ST LOUIS, MO 63110
314-454-2217
HAMEL, TIMOTHY J FP
649 S. NEW BALLAS
ST. LOUIS, MO 63141
314-569-6010
HAMILTON, CALOWELL K PD
11745 OLIVE ST RO
CREVE COEUR, MO 63141
314-562-1090
HAMILTON, EUGENE G OBG
BELLEVUE BLDG
1035 BELLEVUE
ST LOUIS, MO 63117
314-781-3838
HAMILTON, JOHN A OBG
1035 BELLEVUE AVENUE
ST LOUIS, MO 63117
314-781-3838
HAMILTON, THOMAS R IG
TRUMAN MEO CTR. MICRO DIV
2301 HOLMES ST.
KANSAS CITY, MO 64108
816-566-3585
HAMILTON, WILLIAM P CO
615 S NEW BALLAS ROAO
ST LOUIS, MO 63141
314-569-6168
HAMMERMAN, ALBERT M DR
216 S. KINGSHIGHWAY
ST. LOUIS, MO 63110
314-454-7230
HAMMERMAN, HARLEY J OR
#6 JUNGERMAN CIRCLE
ST. PETERS, MO 63376
314-441-6730
HAMMERMAN, MARC R IM
660 S. EUCLIO AVE.
ST. LOUIS, MO 63110
314-454-2968
HAMMONO, D. WADE ORS
533 COUCH AVE.
SUITE 220
ST LOUIS, MO 63122
314-966-0111
HAMMONO, DAVID T CO
ST. LOUIS MEOICAL CLINIC
3009 N. BALLS RO.
ST LOUIS, MO 63131
314-432-1111
HAMPTON, STANLEY F A
93 LAKE FOREST
ST LOUIS, MO 63117
314-781-6808
HANAWAY, JOS N
ROOM 510 100 N. EUCLID
ST LOUIS, MO 63108
314-454-1962
HANOOYO, FRANS S IM
4075 SO. GRANO
ST. LOUIS, MO 63118
314-752-7370
HANES, LILY A TR
1323 SOUTHEAST 17TH. ST.
FT. LAUDEROALE, FL 33316
HANISH, SIONEY J OPH
950 FRANCIS PLACE
SUITE 302
CLAYTON, MO 63105
314-726-5008
HANLEY, THOMAS P OBG
1035 BELLEVUE
ST. LOUIS, MO 63117
314-644-6262
HANNA, FAYEZ A FP
3394 MC KELVEY
BRIDGETON, MO 63044
314-291-6900
HANSER, THEODORE H GS
3555 SUNSET OFFICE OR
ST LOUIS, MO 63127
314-821-3900
*HANSON, LESLEY A IM
7239 LYNDOVER
MAPLEWOOD, MO 63143
314-644-2716
HANSON, PAULL R OM
15948 SILENT CREEK CT.
CHESTERFIELO, MO 63017
314-536-1302
HANTMAN, STEPHEN L IM
MED OFF BLOG SUITE 312-E
11155 OUNN RO.
ST. LOUIS, MO 63136
314-355-8111
HANTZ, OSCAR OTO
1265 GRAHAM RO.
FLORISSANT, MO 63031
314-878-9089
HAROIN, WM B N
3009 NO BALLAS RD.
SUITE 209
ST LOUIS, MO 63131
314-567-3663
HAROY, DAVID A U
911 S BRENTWOOD BLVO
ST LOUIS, MO 63105
314-725-6551
HARDY, GUERDAN OTO
35 N CENTRAL AVE
CLAYTON, MO 63105
314-725-7221

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* Doctor of Osteopathy.

HARDY, PATRICK J   IM
1125 GRAHAM RD
FLORISSANT, MO 63031
314-838-5700

HARELL, ALEX   ORS
8 MEDIC CTR 1040 N. MASON
ST LOUIS, MO 63141
314-878-1010

HARFORD, CARL G   IM
WASH U SCH MED-INT MED-
660 S. EUCLID AVE.
ST LOUIS, MO 63110
314-454-2753

HARKINS, WM B   OTO
275 UNION BLVD.
APT. 920
ST LOUIS, MO 63108

HARPER, FLEMING B   GS
4989 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-454-2111

HARRISON, LEE B   IM
44 RIDGEMOOR DR
CLAYTON, MO 63105

HARRISON, RICHARD L   P
9705 WATSON RD
CRESTWOOD, MO 63126
314-821-2737

HARSHMAN, DAVID M   IM
1031 BELLEVUE AVE
ST. LOUIS, MO 63117
314-644-3250

HART, WILLIAM G   PS
621 S. NEW BALLAS RD.
SUITE 1003
ST. LOUIS, MO 63141
314-567-3737

HART, WILLIAM M JR   OPH
660 SOUTH EUCLID
ST LOUIS, MO 63110
314-452-2150

HARTIN, RICHARD B JR   AN
816 STREIFF LANE
BALLWIN, MO 63011
314-227-3893

HARTMAN, PAUL T   P
RR #1, BOX 230
BIGGSVILLE, IL 61418

HARTMAN, RICHARD A   OBG
524 PRINCEWAY CT.
MANCHESTER, MO 63011
314-454-7834

HARTNETT, THOS O   P
11 S MERAMEC
ST LOUIS, MO 63105
314-727-7700

HARTSTEIN, JACK   OPH
8631 DELMAR BLVD
ST LOUIS, MO 63124
314-991-2667

HARWELL, JAMES L   PD
35 N CENTRAL
ST LOUIS, MO 63105
314-721-2262

HASENMUELLER, JAMES J   GS
10004 KENNERLY RD
SUITE 110
ST LOUIS, MO 63128
314-842-1890

HATFALVI, BELA I   AN
15 MIDDLESEX DR
ST LOUIS, MO 63144

HAWATMEH, IBRAHIM S   U
3720 HAMPTON AVE.
ST LOUIS, MO 63109
314-353-9000

HAWK, BRAY O   GS
16 HAMPTON VILLAGE
ST LOUIS, MO 63109
314-481-3833

HAWK, THOMAS M   ORS
6500 CHIPPEWA
ST. LOUIS, MO 63109
314-352-4400

HAWKER, WM D   OBG
77 WILLMORE RD
ST LOUIS, MO 63109

HAWKINS, GEO L   NS
504 OAKWOOD
ST LOUIS, MO 63119

HAYAT, SULTAN A   IM
11115 NEW HALLS FERRY RD
#301
FLORISSANT, MO 63033
314-839-2770

HAYEK, WESLEY E   GS
11115 NEW HALLS FERRY RD
FLORISSANT, MO 63033
314-838-5600

HAYNES, JAMES W   PTH
1 IVANHOE WOODS
KIRKWOOD, MO 63122
314-966-1500

HAZAN, JOSEPH   OBG
2428 WOODSON
ST LOUIS, MO 63114
314-427-2424

HEADRICK, JOHN A   IM
11133 DUNN RD
ST LOUIS, MO 63136
314-355-2300

HEGDE, KORGI V   IM
3915 WATSON RD
ST LOUIS, MO 63109
314-644-7100

HEINS, JAMES N   IM
ST. LOUIS MEDICAL CLINIC
3009 NO. BALLAS RD.
ST LOUIS, MO 63131
314-432-1111

HELBING, EDWARD J   OS
250 ALAMEDA #105
SANTA FE, NM 87501

HELLER, RANDALL L JR   OBG
1034 BRENTWOOD SUITE 946
ST. LOUIS, MO 63117
314-725-9300

HELLWEG, RAYMOND W   PD
3220 PARKER RD
FLORISSANT, MO 63033
314-921-4500

HELMAN, LEE J   IM
1210 OXFORD HILL G
ST. LOUIS, MO 63141
314-872-3622

HENDIN, AARON   IM
5203 CHIPPEWA
SUITE 303
ST LOUIS, MO 63109
314-481-3434

HENRY, CATHERINE G   CO
1768 GOLDENHORN CT.
MARYLAND HGHTS, MO 63043
314-454-4860

HENSCHEL, EUGENE V   IM
4709 HAMPTON AVE.
ST LOUIS, MO 63109
314-832-3303

HENSELMEIER, DALE M   FP
12255 DEPAUL DRIVE
SUITE 600
BRIDGETON, MO 63044
314-291-1074

HER, KYU S   PD
624 HAVERFORD RD
ST LOUIS, MO 63124
314-644-8408

HERJANIC, MARIJAN   P
1420 GRATTAN
ST LOUIS, MO 63104
314-241-7600

HERMAN, MORRIS   GS
3555 SUNSET OFFICE DR
ST LOUIS, MO 63127
314-821-3900

HERNANDEZ, SALVADOR R   ORS
6500 CHIPPEWA AVE
ST LOUIS, MO 63109
314-832-3210

HERRIFORD, MERLE B   U
2715 N. UNION
ST. LOUIS, MO 63113
314-261-3300

HERRMANN, VIRGINIA M   GS
1325 S GRAND BLVD.
ST. LOUIS, MO 63104
771-7600

HERSHEY, FALLS B   GS
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-6666

HERTEL, RONALD C   ORS
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63105
314-721-7325

HERZOG, GOOOFREDO M   OBG
77 WESTPORT PLAZA
SUITE 265
ST. LOUIS, MO 63141
314-878-7333

HESKER, ALBERT E   R
2821 N BALLAS RD STE C-
ST LOUIS, MO 63131
314-432-5284

HESS, JOHN P   IM
1031 BELLEVUE STE. 360
ST. LOUIS, MO 63117
314-647-0233

HEUSLER, ANTON F   P
12255 DEPAUL DRIVE
SUITE 330
BRIDGETON, MO 63044
314-291-7449

HEUTEL, LEE B   FP
7200 MANCHESTER
ST LOUIS, MO 63143
314-645-7744

HIATT, BARRY A   P
4524 FOREST PARK AVE.
SUITE 102
ST LOUIS, MO 63108
314-367-8718

HIATT, H C   IM
7937 BIG BEND BLVD.
ST LOUIS, MO 63119

HICKEY, JAMES L   OBG
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5515

HICKS, ROBT S   P
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-2266

HIGGINS, PHILIP C   OBG
1 CLAYCHESTER
ST LOUIS, MO 63131
314-432-8505

HILBERT, PAUL H   FP
2905 CHEROKEE ST
ST LOUIS, MO 63118
314-771-2428

HILDRETH, HOWARD R   OPH
15022 CLAYMOOR CT
CHESTERFIELD, MO 63017

HILGARD, JAMES H   IM
1105 RALPH TERRACE
ST. LOUIS, MO 63117
314-644-0490

HILL, CHESTER J   IM
#5 FAIRMOUNT
ALTON, IL 62002

HILL, M. ROBERT   IM
6150 OAKLAND AVE.
ST. LOUIS, MO 63139
314-645-8510

HILL, THOMAS E   R
1332 WESTBROOK TERR DR
BALLWIN, MO 63011
314-843-3547

HILL, XACAOENE A   FP
4067 DR MARTIN LUTHER KING
ST LOUIS, MO 63113
314-535-6859

HILLMAN, RICHARD E   PO
P. O. BOX 14871
ST LOUIS, MO 63178
314-454-6051

HINRICHS, JAMES H   IM
12255 DEPAUL DR.
BRIDGETON, MO 63044
314-291-2747

HINTZE, PAUL F   IM
355 NOVARA DR
MANCHESTER, MO 63011
314-394-3670

HIRONIMUS, JOHN E   D
6651 CHIPPEWA ST STE 20
ST LOUIS, MO 63109
314-645-5320

HIRSCH, JOHN D   GS
216 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-7185

HIRSHBERG, GARY E   AN
660 SOUTH EUCLID AVE.
ST. LOUIS, MO 63110
314-454-2858

HOBBS, JOHN E   OBG
25 WOODENCREST DR
ST LOUIS, MO 63124

HODEL, KENNETH A   OBG
621 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
569-6880

HOEHN, JOHN P III   GS
12255 DE PAUL DR
BRIDGETON, MO 63044
314-569-3322

HOELZER, DAVID R   IM
660 S EUCLID
ST. LOUIS, MO 63110
314-454-3387

HOELZER, KAREN L   IM
3502 PESTALOZZI
ST. LOUIS, MO 63118
314-771-7600

HOFFMAN, ROBERT J   PO
11115 NEW HALLS FERRY
FLORISSANT, MO 63033
314-837-2808

HOFFMAN, WILLIAM F   N
12255 DE PAUL DR.
SUITE 830
BRIDGETON, MO 63044
314-291-6556

HOFFMANN, A. DAVID   IM
4920 MCCAUSLAND
ST LOUIS, MO 63109

HOFFMANN, RONALD E   ORS
MEDICAL WEST BUILDING
950 FRANCIS SUITE 14
ST. LOUIS, MO 63105
314-862-2012

HOFFMANN, SANDRA S   IM
231 E. ARGONNE
KIRKWOOD, MO 63122
314-821-2021

HOFSTATTER, LEOPOLD   N
768 GLEN VISTA DR
ST LOUIS, MO 63122
314-644-8107

HOGAN, CORNELIUS E   IM
3654 S GRAND BLVD
ST LOUIS, MO 63118
314-773-0898

HOGAN, JOHN R   IM
1303 WEBSTER PATH DR.
ST LOUIS, MO 63119
314-644-6161

HOGAN, PATRICK A N
1034 S BRENTWOOD
ST LOUIS, MO 63117
314-725-1522
HOGAN, PATRICK C OBG
10004 KENNERLY RD
ST LOUIS, MO 63128
314-842-3445
HOLBROOK, CHAS K OM
11655 W FLORISSANT
FLORISSANT, MO 63033
314-831-5200
HOLDER, BARRETT K ORS
3009 NORTH BALLAS RD.
P.O. BOX 31097
ST LOUIS, MO 63131
314-569-0612
HOLEMON, R. EUGENE P
3009 N. BALLAS RD.
SUITE #110
ST LOUIS, MO 63131
314-567-5000
HOLLO, VENCEL W GS
911 SOUTH BRENTWOOD
ST LOUIS, MO 63105
314-725-4747
HOLLOCHER, RICHARD J ORS
777 S NEW BALLAS RD
CREVE COEUR, MO 63141
314-567-5850
HOLLOMAN, WALTER G DR
11155 DUNN RD.
SUITE 203
ST. LOUIS, MO 63136
314-355-5032
HOLLOWAY, ROBERT B AN
915 N. GRAND BLVD.
ST. LOUIS, MO 63125
HOLMES, NANCY E PD
35 N. CENTRAL
CLAYTON, MO 63105
314-721-2262
HOLSCHER, EDWARD C ORS
234 W JACKSON RD
WEBSTER GROVES, MO 63119
314-961-9212
HOLT, EARL P JR ORS
5505 DELMAR BLVD
ST LOUIS, MO 63112
314-367-8338
HOLT, WM E P
4524 FOREST PARK BLVD
ST LOUIS, MO 63108
314-367-3077
HOLTMANN, BARBEL PS
4949 BARNES HOSPITAL PLAZA
SUITE 17424
ST LOUIS, MO 63110
314-454-3455
HOLTZ, ALAN S GS
12166 BIG BEND BLVD.
KIRKWOOD, MO 63122
314-822-7200
HOLTZ, SUMNER DR
5535 DELMAR
ST LOUIS, MO 63112
314-361-1212
HOOKERMAN, BRUCE J O
12255 DEPAUL DR
BRIDGETON, MO 63044
314-291-2588
HOOVER, BERNARD L IM
3915 WATSON RO
ST LOUIS, MO 63109
314-644-7100
HORAN, DAVIO W EM
141-C W. WOODBINE RO.
ST. LOUIS, MO 63122
HORENSTEIN, SIMON N
456 N NEW BALLAS RD.
ST LOUIS, MO 63141
314-567-3970
HORNER, JOHN L IM
GRANT MEDICAL CLINIC
114 N. TAYLOR
ST LOUIS, MO 63108
314-534-8600
HORWITZ, IRWIN B ORS
900 S. HANLEY RO.
ST LOUIS, MO 63105
HOUSTON, MARK T FP
618 PAMELA LANE
KIRKWOOO, MO 63122
314-569-6010
HOWE, ALBERT L IM
300 S GRANO
ST LOUIS, MO 63103
314-658-5641
HOWE, LOUIS F FP
1136 RIDGELYNN
ST LOUIS, MO 63124
HUANG, SHI H NS
12 RAMSGATE OR
ST LOUIS, MO 63132
HUBERT, JOHN W IM
12255 OEPAUL DR.
BRIDGETON, MO 63044
314-291-7730
HUCK, RICHARD F JR IM
2821 N BALLAS
ST LOUIS, MO 63131
314-872-9310
HUDGENS, RICHARD W P
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-2266
HUFFAKER, WILLIAM H PS
11155 DUNN RD.
SUITE 202E
ST. LOUIS, MO 63136
314-355-5333
HUGGINS, ALBERT M IM
6651 CHIPPEWA ST
ST LOUIS, MO 63109
314-644-3997
HUGHES, CHAS P N
1515 LAFAYETTE
ST LOUIS, MO 63104
314-622-5181
HUGHES, ROBT G OM
11745 OLIVE BLVD
ST LOUIS, MO 63141
314-567-5770
HULBERT, BERNARD IM
8112 DELMAR BLVD
ST LOUIS, MO 63130
314-725-7400
HUMMEL, ANTON J OPH
5203 CHIPPEWA ST
ST LOUIS, MO 63109
314-352-1881
HUMMEL, WM C R
1924 MUIR WOODS
ST LOUIS, MO 63131
314-567-1656
HUNLETH, FRANK E OBG
12615 OLD TESSON RD.
ST LOUIS, MO 63128
314-842-7910
HURD, JAMES R GS
417 LONG BOW TRAIL
ST. CHARLES, MO 63301
314-577-5700
HURLEY, JOSEPH J GS
615 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-6666
HUSSEIN, DILBER AN
1325 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-771-7600
HUTCHINSON, JAMES H IM
2805 N. GEYER RD.
ST LOUIS, MO 63131
HUTCHINSON, WILLIAM B DR
2821 N BALLAS RD
ST LOUIS, MO 63131
314-432-5284
HYMAN, ANNA P
818 OLIVE
%MILLAR/SCHAEF/HOFFMAN
ST LOUIS, MO 63101
ICHTERTZ, GREG L IM
5520 NEOSHO
ST. LOUIS, MO 63109
314-351-7237
IKEDA, SHIGEMASA AN
1325 S GRANO
ST LOUIS, MO 63104
314-771-7600
INMAN, MAX M IM
3915 WATSON RD
ST LOUIS, MO 63109
314-644-7100
IP, AIDAN W PO
5398 PERSHING #3E
ST. LOUIS, MO 63112
314-432-1854
IRVIN, WM M P
1035 BELLEVUE STE 202
ST LOUIS, MO 63117
314-644-6200
ISHIDA, YASUO OBG
6744 CLAYTON RD
ST LOUIS, MO 63117
314-645-6100
ISLAM, MOHAMMED GS
1000 HILLSBORO RD.
HIGH RIDGE, MO 63049
314-344-6000
ISSERMAN, MICHAEL J OPH
456 N. NEW BALLAS RO.
ST LOUIS, MO 63141
314-432-1134
ITTNER, GEO W IM
6306 PERSHING AVE.
ST LOUIS, MO 63130
IWANE, AKIRA AN
#5 CRICKET AVE.
ST LOUIS, MO 63144
314-454-2858
IZMIRLIAN, GRANT FP
1040 N MASON RD
ST LOUIS, MO 63141
314-434-7444
JABLONSKI, RAYMOND C R
#6 JUNGERMAN CR. #L-4
ST. PETERS, MO 63376
314-946-6811
JACKSON, DARWIN C OBG
100 N. EUCLID AVE.
ST. LOUIS, MO 63108
314-367-2200
JACOB, KARL A NS
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-9955
JACOBS, CHAS C OTO
43 MUIRFIELD LN
ST LOUIS, MO 63141
314-521-1414
JACOBS, FREDERICK A PD
10929 ABBOTT AVE
SUN CITY, AZ 85351
JACOBS, RICHARD D IM
1315 LOMBEZ DR.
BALLWIN, MO 63011
314-894-8005
JAIN, SAVITRI G IM
533 COUCH AVE.
ST LOUIS, MO 63122
314-821-9140
JAIN, SUMER C AN
12122 CARBERRY PL
ST. LOUIS, MO 63131
314-344-7047
JANNEY, JAMES G JR IM
950 FRANCIS PL
CLAYTON, MO 63105
314-726-6512
JARVIS, CATHY C IM
15951 THROWBRIDGE RD
CHESTERFIELD, MO 63017
314-391-5652
JATALA, IJAZ A P
819 LOCUST
ST LOUIS, MO 63101
314-621-4300
JAUDON, JOS C PD
55 S GORE
ST LOUIS, MO 63119
JAVDAN, RON IM
14220 TULLYTOWN
CHESTERFIELD, MO 63017
314-434-1399
JEAN, J T IM
4989 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-361-5400
JENKINS, JAMES J AN
216 SO KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-7954
JENNY, ARTHUR B NS
344 JEFFERSON RD
ST LOUIS, MO 63119
314-454-3274
JENSEN, JOSHUA E GS
11155 DUNN RD STE 208
ST LOUIS, MO 63136
314-741-3400
JENSEN, JOSHUA E II GS
CHRISTIAN HOSPITAL NO
11155 OUNN RD
ST LOUIS, MO 63136
314-741-3400
JICK, SIDNEY CO
10287 CLAYTON RD
ST LOUIS, MO 63124
314-997-3212
JOFFE, WM S OPH
211 N MERAMEC AVE
CLAYTON, MO 63105
314-726-0025
JOHANS, THOMAS G AN
621 S. NEW BALLAS
ST. LOUIS, MO 63141
314-872-8221
JOHNSON, CHAS J PS
1035 BELLEVUE
ST LOUIS, MO 63117
314-644-6644
JOHNSON, FRANK E GS
1325 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-771-7600
JOHNSON, MICHAEL K OBG
4949 BARNES HOSPITAL
SUITE #16310
ST. LOUIS, MO 63110
314-361-0313
JOHNSON, MITCHELL O GS
BOX 388 RT 2 OLO HALLS FERRY
FLORISSANT, MO 63034
314-741-5779
JOHNSON, TOM A FP
615 SO NEW BALLAS RD
ST LOUIS, MO 63141
314-569-6010
JOHNSTON, OALE E OR
33 WOODBERRY RD.
LITTLE ROCK, AR 72212
JOHNSTON, GLEN P OPH
EAST PAVILION SUITE 17413
4949 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-367-1181

JOHNSTONE, JOHN T IM
206 W ARGDNNE
KIRKWOOD, MO 63122
314-966-3400
JONES, DOROTHY J PD
500 S. KINGSHIGHWAY
ST LOUIS, MD 63110
314-454-3528
JONES, GEORGIA A P
6245 ODELL
ST. LOUIS, MO 63139
JONES, GREY OBG
P. O. BDX 222
BLAWENBURG, NJ 08504
JONES, JAMES H OPH
1035 BELLEVUE AVE
ST LOUIS, MO 63117
314-647-4034
JONES, OTEY S FP
2010 LONGFELLOW
ST LOUIS, MO 63104
JONES, RICHARD A IM
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-4174
JONES, SCOTT D P
6245 ODELL
ST. LOUIS, MO 63139
314-771-7600
JORDAN, WALTER R FP
18012 DESERT GLEN DR.
SUN CITY WEST, AZ 85372
JDSEPH, HAROLD J IM
828 CELLA RD
ST LOUIS, MO 63124
314-872-8740
JOSEPH, MARY G IM
6500 CHIPPEWA
ST. LOUIS, MO 63109
314-352-1422
JOSLYN, HAROLD L GE
65 CLERMDNT LANE
ST LOUIS, MO 63124
JOST, CHAS A FP
2 BELLERIVE ACRES
ST. LOUIS, MO 63121
JOTTE, RICHARD F FP
10300 ST CHARLES ROCK RO
ST ANN, MO 63074
314-427-2022
JUDO, DONALD R TS
6125 CLAYTON AVE.
ST LOUIS, MO 63139
314-649-5525
JUERGENS, WM G IM
1034 S BRENTWOOO BLVO
ST LOUIS, MO 63117
314-721-0666
JULIEN, RENE GS
POST OFFICE BOX 852
EAST ST LOUIS, IL 62203
618-271-4090
JUNKER, JAMES A OR
510 S. KINGSHIGHWAY BLVO.
ST. LOUIS, MO 63110
454-2295
KABIR, MOHAMMEO A P
10000 HIGHWAY 366
ST LOUIS, MO 63126
314-821-1640
KAHN, LAWRENCE I PO
4566 SCOTT AVE
ST LOUIS, MO 63110
314-658-5212
KAIRUZ, BARTOLOME C FP
10004 KENNERLY RO
ST LOUIS, MO 63128
314-843-4444
KAISER, GEO C GS
1325 S GRAND BLVD
ST LOUIS, MO 63104
314-577-6125
KAMAKAS, NICHOLAS C PD
1245 GRAHAM RD
FLORISSANT, MO 63031
314-838-3800
KAMENETZKY, STEPHEN A OPH
4910 FOREST PARK
SUITE 300
ST LOUIS, MO 63108
314-367-0074
KAMINSKI, DONALD L GS
3660 VISTA
ST LOUIS, MO 63110
314-577-6125
KANG, CHANG H GP
3616 S. BROADWAY
ST. LOUIS, MO 63118
314-772-5626
KANG, JUAN PTH
ALLEN MEDICAL LAB
2204 WELSCH INOUSTRIAL
ST LOUIS, MO 63141
314-355-2300
KANNEGIESSER, HARTMUT IM
300 S. GRANO
ST. LOUIS, MO 63103
314-658-5640
KANTOR, OWEN IM
4949 BARNES HOSPITAL PLAZA
SUITE #16422
ST LOUIS, MO 63110
314-367-9595
KAO, MING-SHIAN OBG
4911 BARNES HOSP PLAZA
ST LDUIS, MO 63110
314-454-2343
KAPLAN, ALEX H P
4524 FOREST PARK BLVD
ST LDUIS, MO 63108
314-367-6243
KAPPESSER, NETAJEAN G FP
55 FAIR OAKS DR
ST LOUIS, MO 63124
314-966-1500
KAPPESSER, ROLAND C AN
55 FAIR OAKS
ST LOUIS, MD 63124
KARDESCH, MILTDN IM
P.O. BOX 8632
ST LOUIS, MO 63126
314-962-9878
KARL, MICHAEL M IM
4652 MARYLAND AVE
ST LOUIS, MO 63108
314-367-3113
KARR, ROBERT W IM
2412 PRINCETON
IOWA CITY, IA 52240
KARSH, ROBT S IM
2428 WOODSON RD
ST LOUIS, MO 63114
314-427-2424
KASINADHUNI, UDAYSHANKER AN
1317 PARKVIEW MEAOOWS DR.
MANCHESTER, MO 63011
314-771-7600
KASS, MICHAEL A OPH
660 S EUCLID
ST LOUIS, MO 63110
314-454-2722
KATSANTONIS, GEORGE OTO
6651 CHIPPEWA
ST LOUIS, MO 63109
314-647-5854
KAUFMAN, ROBT L IM
456 N NEW BALLAS RD
SUITE 299
ST LOUIS, MO 63141
314-569-1090
KAUP, CHANORA S IM
1125 GRAHAM RO
FLORISSANT, MO 63031
314-838-5700
KAVOOSSI, ROSTAM PM
P.O. BOX 961
12303 OE PAUL DR.
BRIDGETON, MO 63044
314-344-7004
KAYES, JACK OPH
211 N MERAMEC
ST LOUIS, MO 63105
314-863-4200
KAZA, RAMARAO U
6500 CHIPPEWA
#1 SUITE 116
ST LOUIS, MO 63109
314-832-7227
KEATING, JAMES P PO
ST LOUIS CHILORENS HOSP
P O BOX 14871
ST LOUIS, MO 63178
314-454-6006
KEFFLER, KARL L FP
7306 WISE AVE
ST LOUIS, MO 63117
314-781-3737
KEITHLY, DENNIS J EM
121 HIDOEN CREEK DR.
ELLISVILLE, MO 63011
314-569-6090
KELLER, MAURICE J PD
9049 CLAYTON RD
ST LOUIS, MO 63117
314-727-6300
KELLER, STEPHEN M R
615 S. NEW BALLAS
ST. LOUIS, MO 63141
314-569-6000
KELLETT, JOHN G FP
243 KENORA CT
WEBSTER GROVES, MO 63119
314-892-3500
KELLY, JOHN J IM
ST. LOUIS MEDICAL CLINIC
3009 NO. BALLAS RO.
ST LOUIS, MO 63131
314-432-1111
KELLY, R E OM
665 S. SKINKER
ST LOUIS, MO 63105
314-621-4300
KELLY, WILLIAM A P
4524 FOREST PARK AVE.
ST LOUIS, MO 63108
KELTNER, RAYMOND M JR GS
1325 S GRANO
ST LOUIS, MO 63104
314-771-7600
KENDIG, JOHN H NS
5505 DELMAR BLVD-RM 509
ST LOUIS, MO 63112
314-367-8787
KENDIS, JOS B IM
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5011
KENNEDY, ROBERT M PD
3210 MAGNOLIA AVE.
ST. LOUIS, MO 63118
314-664-7017
KENNEY, JOHN D ORS
12615 OLD TESSON ROAD
ST LOUIS, MO 63128
314-849-0311
KENNINGTON, L J FP
14382 WOODLAKE DR.
CHESTERFIELD, MO 63017
314-434-3333
KESSEL, JAMES W OBG
2 JACKLYNN CT
ST LOUIS, MO 63132
314-432-8388
KESSLER, SHELDON PD
12255 DEPAUL DR. SUITE 490
DEPAUL PROF BLDG.
BRIDGETON, MD 63044
314-739-5333
KESSLER, WILLIAM J OPH
4118 SOUTHLAND DR.
DAYTON, OH 45424
314-865-3210
KEYES, E L GS
900 S HANLEY RD
ST LOUIS, MO 63105
KHAN, A R P
9730 E WATSON RD
ST LOUIS, MO 63126
314-843-9711
KHAN, ABDUL G PD
4150 JEFFCO BLVD.
ARNOLO, MO 63010
314-464-1000
KHAN, ALTAF A GE
12166 BIG BEND BLVO
ST LOUIS, MO 63122
314-966-6790
KHOOADOUST, KAVOUS PTH
1606 GRATTAN
ST LOUIS, MO 63104
314-611-5432
KIELMOVITCH, IZAK H OTO
1325 S. GRANO BLVD.
ST. LOUIS, MO 63104
314-771-7600
KIENZLE, EOWARO FP
P. O. BOX 356
BONNE TERRE, MO 63628
KILKER, OONALO E FP
7520 NATURAL BRIDGE RO
NORMANOY, MO 63121
314-385-4555
KILO, CHAS IM
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5529
KIM, STANLEY W R
777 S NEW BALLAS
ST LOUIS, MO 63141
314-567-4350
KIM, WILLIAM W AN
1325 S GRANO BLVO
ST LOUIS, MO 63104
314-771-7600
KIMELMAN, NATHAN IM
6744 CLAYTON RO
ST LOUIS, MO 63117
314-781-3400
KING, EUSTACE E III FP
111 CHURCH ST
FERGUSON, MO 63135
314-524-7975
KING, FRANCIS C FP
9 CRICKLEWOOD PLACE
ST LOUIS, MO 63131
KING, JAMES P PD
10004 KENNERLY RO.
ST. LOUIS, MO 63128
314-849-5010
KING, JOHN V JR PUD
2995 CLARKSON RO
CHESTERFIELD, MO 63017
314-739-5070
KING, JOHN V SR FP
615 S NEW BALLAS RO
ST LOUIS, MO 63131
314-569-6010
KING, M. KENTON IM
660 S EUCLIO
ST LOUIS, MO 63110
314-454-2461
KINGSLAND, ROBERT C IM
6150 OAKLAND
ST LOUIS, MO 63139
KINSELLA, EDWARO D GE
1035 BELLEVUE
RICHMOND HEIGHT, MO 63117
314-645-1344

KINSELLA, MARIA S IM
22 CONWAY LANE
ST. LOUIS, MO 63124
314-622-4761

KINSELLA, PETER W IM
1035 BELLEVUE
ST LOUIS, MO 63117

KINSELLA, RALPH A JR IM
6305 WESTMINSTER PL
ST LOUIS, MO 63130
314-622-5000

KIPNIS, DAVID M IM
660 S EUCLID
ST LOUIS, MO 63110
314-454-3242

KISSANE, JOHN M PTH
WASHINGTON U SCH MED
660 S. KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-3771

KISTLER, W. DAVID JR IM
SUITE 113 MED W BLDG
950 FRANCIS PLACE
CLAYTON, MD 63105
314-721-0411

KISTNER, WM F PUD
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-3161

KITCHEN, ALICE D P
1221 SOUTH GRAND AVE.
ST. LOUIS, MO 63104
314-771-6400

KIYANCLAR, M. EMIN AN
DEPT OF ANES. WASH UNIV.
660 S. EUCLID
ST LOUIS, MO 63110
314-454-2858

KLEIN, BERT H FP
34 N RIDGEWOOD AVE
ARCADIA, MI 49613

KLEIN, JACOB OBG
777 S. NEW BALLAS RD
ST. LOUIS, MO 63141
314-569-2424

KLEIN, SAUL J U
456 N NEW BALLAS RO STE
ST LOUIS, MO 63141
314-567-6071

KLIEFOTH, JAMES A GS
2643-C KEOKUK
ST. LOUIS, MO 63118
314-771-0050

KLIPPEL, BERNHARDT W GS
52 FAIR OAKS
ST LOUIS, MO 63124

KLOECKER, RICHARO J GS
12255 OEPAUL SUITE 160
BRIDGETON, MO 63044
314-291-3787

KLOECKER, ROBT P OBG
3009 N. BALLAS RD.
ST LOUIS, MO 63131
314-569-3838

KLUTTZ, ALYWIN E FP
3 MORENA CT.
BALLWIN, MO 63011
314-394-0426

KLUZAK, THOMAS R OBG
621 S NEW BALLAS
ST LOUIS, MO 63141
314-569-6880

KNEAL, ELLSWORTH PO
725 S SKINKER BLVD
ST LOUIS, MO 63105

KNIGHT, FRANKLIN P FS
11115 NEW HALLS FERRY RO
FLORISSANT, MO 63033
314-837-1333

KNIGHT, JAMES W GS
7520 NATURAL BRIOGE,
SUITE 102
ST. LOUIS, MO 63121
314-385-7300

KNIGHT, WM A JR GE
1035 BELLEVUE AVE.
ST LOUIS, MO 63117
314-645-3400

KNOCK, HENRY L PD
325 N. KIRKWOOO RO.
KIRKWOOO, MO 63122
314-966-8728

KNOPF, HARRY L OPH
211 N MERAMEC ST
CLAYTON, MO 63105
314-863-4200

KNOWLES, ROBT R P
1034 SOUTH BRENTWOOD BL
ST LOUIS, MO 63117
314-725-1522

KNOWLTON, NORMAN P JR IM
14 OAKLEIGH LN
ST LOUIS, MO 63124
314-361-7660

KODNER, IRA J CRS
216 S. KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-7177

KOEHLER, GEO A IM
224 S. WDODS MILL RD.
CHESTERFIELD, MO 63017
314-576-5014

KOENIG, MARVIN I OPH
900 N HWY 67 LINDBERGH
FLORISSANT, MO 63031
314-838-0300

KOERNER, KENNETH A PD
2821 N BALLAS RD
ST LOUIS, MD 63131
314-432-1854

KOLKER, ALLAN E OPH
660 S EUCLID AVE
ST LOUIS, MO 63110
314-454-3147

KOLODNY, ROBT C IM
24 S. KINGSHIGHWAY BLVD.
ST LOUIS, MD 63108
314-361-2377

KOPELSON, JEFFREY C FP
C/O MED FIRST
919 MANCHESTER
BALLWIN, MO 63011
314-227-8880

KDPEN, DAN F GS
NPW MEDICAL CTR.
1010 E. MOUNTAIN DR.
WILKES-BARRE, PA 18702
717-826-7680

KOPMAN, ERCUMENT A AN
660 S. EUCLID AVE.
ST LOUIS, MO 63110
314-454-2858

KORENBLAT, PHILLIP E A
10287 CLAYTON RD
ST LOUIS, MO 63124
314-997-3212

KORN, ROBT L PD
456 N NEW BALLAS
ST LOUIS, MO 63141
314-567-6868

KOSURI, LALITHA IM
6500 CHIPPEWA SUITE 124
ST. LOUIS, MO 63109
314-352-1422

KOTNER, LAWRENCE M IM
1040 N. MASON RD.
ST LOUIS, MO 63141
314-576-7196

KOTNER, LAWRENCE M JR R
270 BELLINGTON LANE
ST. LOUIS, MO 63141
314-454-7230

KOUCHEKZADEH, BEHJAT PTH
2389 BROAOMONT CT
CHESTERFIELO, MO 63017
314-391-5886

KOVAC, S. ROBERT OBG
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5016

KOWERT, EDWARO H P
PAVILION SUITE 16303
4949 BARNES HOSP. PLAZA
ST LOUIS, MO 63110
314-367-3829

KRAEGER, RUSSELL R TS
SUITE #171 533 COUCH AVE.
ST LOUIS, MO 63122
314-965-9660

KRAETSCH, ROBERT E IM
4949 BARNES HOSPITAL PLAZA
SUITE #16422
ST LOUIS, MO 63110
314-367-9595

KRAIN, SAMUEL R
17 BRIAR CLIFF
ST LOUIS, MO 63124
314-721-0242

KRAMER, JAN L GS
7748 ATTINGHAM LN.
ST. LOUIS, MO 63119
314-454-2000

KRAMER, JEFFREY B GS
#12-K 18 S. KINGSHIGHWAY
ST. LOUIS, MO 63108
314-454-2909

KRANER, JUSTIN F OBG
2821 N. BALLAS RO.
SUITE 205
ST LOUIS, MO 63131
314-567-4373

KRANTMAN, HERBERT J A
777 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-2015

KRAUS, FREDERICK T PTH
ST JOHNS MERCY MED CTR
615 S. NEW BALLAS RO.
ST LOUIS, MO 63141
314-569-6194

KRAUSE, G. LYNN GS
224 S. WOOOS MILL RD.
CHESTERFIELD, MO 63017
314-576-0060

KRECHEL, SUSAN L AN
13881 TESSON FERRY RO
ST LOUIS, MO 63128
314-454-2858

KREISMAN, JEROLD J P
522 N. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-1717

KRESKI, KENNETH C IM
6420 CLAYTDN RD
ST. LOUIS, MO 63117
314-768-8888

KRETCHMAR, ALAN P DPH
3009 N BALLAS RD.
ST LOUIS, MD 63131
314-872-7263

KREWET, FRANK A III IM
1700 S SECOND ST
ST LOUIS, MO 63177
314-622-1630

KRIEGER, JOHN L AN
28 BERRY ROAD PARK
ST. LOUIS, MO 63122
314-961-3820

KRIEGSHAUSER, JAMES W IM
3915 WATSON RD.
ST. LOUIS, MO 63109
314-644-7100

KRISHNASAMY, BHARATH K NM
510 S. KINGSHIGHWAY
ST. LOUIS, MO 63110
314-454-3566

KROEGER, GEO B JR OTO
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-9230

KROJANKER, RDLF J P
6651 CHIPPEWA
ST LOUIS, MO 63109
314-644-2395

KROMER, CHAS J IM
3545 LAFAYETTE
ST LOUIS, MO 63104
314-664-6500

KRONEMER, NORTON S PD
12660 LAMPLIGHTER SOUAR
ST LOUIS, MO 63128
314-849-2400

KRUMMENACHER, THOMAS K OPH
OEPT OF OPTHALMOLOGY
3660 VISTA
ST. LOUIS, MO 63110
314-865-3210

KRUPIN, THEODORE OPH
660 S EUCLIO
ST LOUIS, MO 63110
314-454-2723

KUCZER, ARNOLDO OTO
522 NEW BALLAS RO.
ST LOUIS, MO 63141
314-432-4110

KUEBEL, RICHARO J IM
621 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-567-1992

KUEBRICH, THOS C FP
111 CHURCH ST
FERGUSON, MO 63135
314-521-0018

KUHLMAN, RALPH F IM
1034 S BRENTWOOD BLVO
ST LOUIS, MO 63117
314-721-0666

KUHLMAN, ROBERT E ORS
4989 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-367-4338

KUHN, LARRY P
621 S NEW BALLAS
ST. LOUIS, MO 63141
314-569-1011

KUHN, NOBUKO O IM
6951 DELMAR BLVD
ST LOUIS, MO 63130
314-863-0854

KULAK, GARY P
621 S NEW BALLAS
ST LOUIS, MO 63141
314-567-4470

KULKAMTHORN, SIRIPORN PM
10010 KENNERLY RD.
ST. LOUIS, MO 63128
314-842-6120

KULKARNI, NANDINI S AN
621 S. NEW BALLAS RD.
CREVE COEUR, MO 63141
314-569-6880

KUMAR, ALFRED S AN
12903 PARTRIDGE RUN
FLORISSANT, MO 63033

KUMAR, RAVI S AN
1361 CLARKSON PINES
ELLISVILLE, MO 63011
314-454-2858

KUMARI, VIJAYA OBG
3009 NORTH BALLAS RD.
ST. LOUIS, MO 63131
314-872-9200

KUNST, EDWARD J IM
1713 CARMAN VALLEY DR.
MANCHESTER, MO 63011

KUTRYB, WALTER J IM
11115 NEW HALLS FERRY RD
FLORISSANT, MO 63033
314-838-0335

KWAN, VICENTE W IM
P. O. BOX 399
POTOSI, MO 63664
314-438-5424
KYAW, MYO M DR
11155 DUNN RD
ST LOUIS, MO 63136
314-355-6565
L'ECUYER, JEROME L PD
9313 MANCHESTER RD
ST LOUIS, MO 63119
LA DRIERE, RAYMOND J PD
2821 N. BALLAS RD.
SUITE 110
ST. LOUIS, MO 63131
314-432-3665
LACSON, LETICIA D CHP
254 PENWOOD CT
CHESTERFIELD, MO 63017
314-838-5700
LACY, PAUL E PTH
WASHINGTON U SCH MED
660 S. EUCLID
ST LOUIS, MO 63110
314-454-3771
LADD, CHAS B GP
13045 TESSON FERRY RD.
ST LOUIS, MO 63128
314-843-8700
LAIRD, JOHN M IM
3009 N. BALLAS RD.
SUITE 108
ST. LOUIS, MO 63131
314-872-3620
LAM, ERNESTO S GS
142 E LOCKWOOD
ST LOUIS, MO 63119
314-961-4848
LAMB, WANDA P
456 N NEW BALLAS RO
SUITE 282
ST LOUIS, MO 63141
314-567-5707
LAMBERG, ROBERT L OPH
211 NORTH MERAMEC
CLAYTON, MO 63105
314-726-2277
LAMPING, J. DANIELS OBG
77 WESTPORT PLAZA OR.
SUITE 363
ST. LOUIS, MO 63141
314-576-2900
LAMPROS, WM P OTO
1035 BELLEVUE
ST LOUIS, MO 63117
314-781-6212
LANOAU, DAVIO W IM
11155 DUNN RD.
ST. LOUIS, MO 63136
314-355-4010
LANOAU, WM M N
660 S EUCLIO AVE
ST LOUIS, MO 63110
314-454-2385
LANOER, JERROLD J IM
5505 DELMAR
SUITE 503
ST. LOUIS, MO 63112
314-361-8100
LANOER, ROBERT C ORS
456 N NEW BALLAS
SUITE 369
ST LOUIS, MO 63141
314-569-1830
LANDRY, J. HUBERT R
2821 N BALLAS RO
ST LOUIS, MO 63131
314-432-5284
LANOY, RICHARO PTH
C/O ALLEN MEDICAL LAB.
2204 WELSCH INDUSTRIAL
ST LOUIS, MO 63141
314-991-2916
LANE, CLINTON W O
950 FRANCIS PL
ST LOUIS, MO 63105
314-862-0992
LANE, DANL K O
950 FRANCIS PL
ST LOUIS, MO 63105
314-862-0992
LANG, JOHN J R
507 FAIRWAYS CIRCLE
ST LOUIS, MO 63141
314-434-1500
LANGE, ADOLPH C OPH
6536 DEVONSHIRE
ST LOUIS, MO 63109
LANGE, OAVIO R ORS
SUITE #360
12255 OEPAUL DR.
BRIDGETON, MO 63044
314-291-7181
LANGENBACH, ALFRED M FP
OELMAR GAROENS CHESTERFIELD
14855 N. OUTER FORTY RO
CHESTERFIELD, MO 63017
LANIER, EARL W FP
2386 N. HWY 67
FLORISSANT, MO 63033
314-837-0030

LANSANGAN, ISAIAS P IM
13 MERAMEC HGTS SHOPPING CTR
ARNOLD, MO 63010
314-296-0500
LANSCHE, W. EDWARD ORS
3009 N. BALLAS RD.
P.O. BOX 31097
ST LOUIS, MO 63131
314-569-0612
LARDO, HORACIO G AN
ST. LOUIS UNIV DEPT OF ANEST
1325 S. GRAND BLVD
ST. LOUIS, MO 63104
314-771-7600
LAROCCA, FELIX F CHP
1B WEST POINT LANE
ST LOUIS, MO 63131
314-567-4080
LARSEN, VIRGINIA L PD
4015 4TH AVE. N.E.
SEATTLE, WA 98105
LARSON, PAUL U IM
6223 SOUTHLAND
ST LOUIS, MO 63109
314-664-5500
LATTINVILLE, HENRY E NS
12255 DEPAUL DR.
BRIDGETON, MO 63044
314-291-6556
LAU, LUIS P
1467 REAUVILLE DR-WARSO
ST LOUIS, MO 63122
314-487-0400
LAUBER, JOS J FP
615 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-6010
LAUER, JOHN D R
555 HIGH MEADOW RD
ST LOUIS, MO 63131
314-878-4680
LAUTER, STEVEN IM
777 S NEW BALLAS
ST. LOUIS, MO 63141
314-B72-8740
LAUX, FRANCE A PTH
2204 WELSCH INOUSTRIAL CT.
ST LOUIS, MO 63141
314-432-1850
LAWRENCE, GEO H N
12552 POSTGROVE OR.
ST. LOUIS, MO 63141
314-344-7135
LAWTON, JOHN T IM
522 N. NEW BALLAS RD
ST LOUIS, MO 63141
314-432-8014
LE, HIEU H AN
1325 S. GRAND BLVO.
ST. LOUIS, MO 63104
314-771-7600
LE BLANC, LEO J CRS
8038 DAVIS OR.
ST LOUIS, MO 63105
LEACH, WILFREO OTO
3655 VISTA AVE
ST LOUIS, MO 63110
314-773-1323
LEARY, OANL J JR R
2445 COPPER BEECH
ST LOUIS, MO 63131
314-567-4442
LEE, BENJAMIN I IM
7549 PARKDALE #3N
CLAYTON, MO 63105
314-454-3474
LEE, OUK S AN
12848 TOPPING MEADOWS DR.
TOWN & COUNTRY, MO 63131
314-872-8221
LEE, FRANSISKA A ONC
ST. JOHN'S MERCY HOSP.
615 SO. NEW BALLAS RD.
ST LOUIS, MO 63141
314-569-6844
LEE, JOSEPH KING TAK R
510 S. KINGSHIGHWAY
ST. LOUIS, MO 63110
314-454-2191
LEE, KIL S DR
11155 DUNN RO
ST LOUIS, MO 63136
314-355-2300
LEHNERT, STEPHEN E OBG
1325 S. GRANO BLVD.
ST. LOUIS, MO 63104
314-771-7600
LEIGHTNER, WM F IM
550 BEDFORO AVE
ST LOUIS, MO 63130
314-487-6910
LEMING, BERT H PTH
11714 CRAIGVIEW DR
ST LOUIS, MO 63141
LEMLEY, JOHN S ONC
9293 WATSON RD.
ST. LOUIS, MO 63126
314-962-9880

LENOBEL, MILTON I ORS
4330 FALMOUTH DR.
APT. C-301
LONGBOAT KEY, FL 33548
314-771-7643
LENZENHUBER, KARL J R
49 OXFORD DR.
WASHINGTON, MO 63090
314-239-1773
LEONHARDT, ERWIN M IM
10004 KENNERLY RD.
SUITE 335
ST LOUIS, MO 63128
314-843-3800
LEPLEY, CHARLES R GP
P.O. BOX 1628
MARYLAND HTS., MO 63043
314-434-0419
LERWICK, EVERETT R GS
MO BAPTIST DIAGNOSTIC CTR.
3009 N. BALLAS STE. 216
ST LOUIS, MO 63131
314-567-5377
LESLIE, CHAS H FP
209 S. KIRKWOOD
ST. LOUIS, MO 63121
LEVECK, KATHLEEN T OBG
7334 DREXEL DR.
ST. LOUIS, MO 63130
314-771-7600
LEVIN, MARVIN E IM
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-432-6688
LEVINE, LAURENCE A OTO
4910 FOREST PARK
ST LOUIS, MO 63108
314-454-7875
LEVITT, JOS IM
8011 CLAYTON RD.
ST LOUIS, MO 63117
314-727-1977
LEVITT, ROBT G DR
510 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-2191
LEVY, JEROME F GS
BARNES HOSP PLAZA
SUITE 17308
ST LOUIS, MO 63110
314-367-9400
LEVY, MORTON A IM
522 N NEW BALLAS RD
CREVE COEUR, MO 63141
314-569-0160
LEWIN, W. HOWARD OPH
906 OLIVE ST
ST LOUIS, MO 63101
314-421-1749
LEWIS, JAMES E POS
1401 S GRANO BLVD
ST LOUIS, MO 63104
314-773-1650
LEWIS, ROBERT D OPH
9187 ARROW OR.
ST LOUIS, MO 63123
314-645-4940
LIAO, KUN T PTH
11636 AOMINISTRATION DR
ST LOUIS, MO 63141
314-567-3905
LIEB, FRANCIS X PD
621 S NEW BALLAS RO
ST LOUIS, MO 63141
314-872-7991
LIEBERMAN, DAVIO M IM
4989 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-361-5300
LIEBHABER, HARVEY IM
8515 OELMAR
ST LOUIS, MO 63124
314-991-1766
LIGHT, BARRY PO
8112 OELMAR
ST. LOUIS, MO 63130
314-434-2769
LILLY, DOUGLAS R NM
621 S NEW BALLAS RO
ST LOUIS, MO 63141
314-432-3456
LIM, PIEMSAK OBG
4200 N. CLOVERLEAF OR.
SUITE N
ST. CHARLES, MO 63301
314-928-1002
LIMA, JOSE A OTO
1465 S. GRANO
ST. LOUIS, MO 63104
314-577-5600
LIN, HSIU-SAN TR
510 S. KINGSHIGHWAY
ST. LOUIS, MO 63110
314-454-3481
LINDEMAN, CARL H FP
7101 WESTMORELAND
ST LOUIS, MO 63130
LINOER, HOWARD E PUO
3015 N BALLAS RD
ST LOUIS, MO 63131
314-569-5131

LINK, ALEXANDER J OR
7215 MARYLANO
ST LOUIS, MO 63130
314-432-5284

LINS, ROBT D PO
309 MANCHESTER RD
MANCHESTER, MO 63011
314-391-8710

LIPSCHITZ, ERVIN P
777 S NEW BALLAS RO
ST LOUIS, MO 63141
314-872-7646

LIPSITZ, ELLIS S IM
100 N. EUCLIO SUITE 2
LOWER LEVEL
ST LOUIS, MO 63108
314-367-6528

LISCHWE, OANIEL H FP
12255 OEPAUL ORIVE
SUITE 600
BRIDGETON, MO 63044
314-291-1074

LISS, JAY L P
763 SOUTH NEW BALLAS RO
ST LOUIS, MO 63141
314-569-0212

LITTMANN, LEWIS E IM
56 CRESTWOOD OR.
CLAYTON, MO 63105

LITZOW, PETER L R
520 LOCUST CT.
WEBSTER GROVES, MO 63119

LIVINGSTON, DON G PD
P.O. BOX 46
BALLWIN, MO 63011
314-527-6960

LLINAS, ALFREOO J GS
319 B. HAYOEN ST.
SAYRE, PA 18840
717-888-6666

LO PICCOLO, VINCENT J JR PD
2821 N BALLAS RD
ST LOUIS, MO 63131
314-567-4806

LO PICCOLO, VINCENT J SR IM
2719 LACLEOE ROAO #C
ST LOUIS, MO 63141

LOCKHART, CHARLES G GS
4989 BARNES HOSP PLAZA
ST. LOUIS, MO 63110
314-454-2855

LOEB, VIRGIL IM
4989 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-454-5360

LOEFFEL, ELLEN S GYN
3654 S. GRAND
ST LOUIS, MO 63118
314-776-4345

LOGIE, MACDONALO B R
13697 PEACOCK FARM
ST LOUIS, MO 63131
314-361-7373

LOHR, ROBT W R
236 CONWAY HILL RO
ST LOUIS, MO 63141

LOITMAN, BERNARO S R
10 WASHINGTON TERR
ST LOUIS, MO 63112
314-621-3378

LONDE, ALAN M GS
1040 N. MASON RO.
ST LOUIS, MO 63141
314-434-2518

LONDE, SOL PD
2855 ROSCAMARE RD.
BEL AIR, CA 90024

LONOON, STANLEY L GS
456 N NEW BALLAS RO
ST LOUIS, MO 63141
314-569-0131

LONERGAN, WARREN M IM
4910 FOREST PARK AVE
ST LOUIS, MO 63108
314-361-1167

LONG, FRANK B OBG
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63117
314-725-9300

LONG, JULIE A GS
BARNES HOSPITAL
ST. LOUIS, MO 63110
314-454-2666

LONSWAY, MAURICE J PD
8025 DALE AVE
ST LOUIS, MO 63117
314-644-2566

LORO, RICHARD E ORS
533 COUCH AVE.
SUITE 220
ST LOUIS, MO 63122
314-966-0111

LOTTES, J. OTTO ORS
2646 MICHIGAN
ST LOUIS, MO 63118

LOWENSTEIN, PAUL S GS
18 S KINGSHIGHWAY BLVO
ST LOUIS, MO 63108

LOYNO, ROBT C OTO
950 FRANCIS PL
CLAYTON, MO 63105
314-727-3070

LU, FANG T AN
12858 SOMERTON RIDGE OR.
ST LOUIS, MO 63141

LUBOWITZ, HERBERT IM
8515 DELMAR
ST. LOUIS, MO 63124
314-991-1766

LUECHTEFELD, FRANK ORS
12255 OEPAUL OR
BRIDGETON, MO 63044
314-739-7654

LUEHRS, ROBERT O CHP
230 S. BEMISTON
CLAYTON, MO 63105
314-725-0187

LUGO, SAML GS
3125 LEMAY FERRY RO
ST LOUIS, MO 63125
314-487-3775

LUH, ANDREW M ORS
4110 VON TALGE RO
ST LOUIS, MO 63128
314-894-2404

LUM, JON T P
9378 OLIVE BLVO STE 215
ST LOUIS, MO 63132
314-991-0427

LUND, HERLUF G U
10004 KENNERLY RD.
ST LOUIS, MO 63128
314-843-0740

LUNO, ROBT H GS
1034 S BRENTWOOO
ST LOUIS, MO 63117
314-727-2011

LUTHER, GEORGE A ORS
533 COUCH AVE.
SUITE 220
ST LOUIS, MO 63122
314-966-0111

LYLES, THOMAS O U
1031 BELLEVIEW AVE.
SUITE 210
ST. LOUIS, MO 63117
314-644-0011

LYMAN, EDWARD H OTO
950 FRANCIS PL
ST LOUIS, MO 63105
314-727-3132

LYNXWILER, CHESTER P POC
MED. DEPT. A2SB MONSANTO CO.
800 N. LINBERGH
ST. LOUIS, MO 63166

LYSS, CARL A IM
456 N NEW BALLAS RO
ST LOUIS, MO 63141
314-569-1090

LYSS, STANLEY B PO
456 N NEW BALLAS RO
ST LOUIS, MO 63141
314-872-8662

LYTTLE, GARNET C GS
665 S SKINKER BLVD
ST LOUIS, MO 63105

MAC CAUGHELTY, T. CAMERON AN
12764 SPRUCE PONO ROAO
ST LOUIS, MO 63131
314-567-1337

MAC OONALD, ROBT R JR OR
621 S NEW BALLAS RO
ST LOUIS, MO 63141
314-567-4442

MACDONALO, WM C IM
6744 CLAYTON RD
ST LOUIS, MO 63117
314-645-8333

MACEREN, ROOOLFO L AN
108 CAMFIELD SO OR.
CREVE COEUR, MO 63141
314-839-3800

MACHEFSKY, SIONEY O R
300 FIRST CAPITOL OR.
ST. CHARLES, MO 63301
314-946-6811

MACHEK, OTAKAR PM
6744 CLAYTON RD
ST LOUIS, MO 63117
314-645-6606

MACKEY, RICHARO L U
533 COUCH AVE. RO.
ST. LOUIS, MO 63122
314-821-0000

MACLEOD, ANGUS IM
3555 SUNSET OFFICE DR
ST LOUIS, MO 63127
314-821-3900

MACNISH, JAMES M U
229 BOMPART
ST LOUIS, MO 63119

MAOOIPATI, SREEDEZI AN
1325 SOUTH GRANO
ST LOUIS, MO 63104
314-771-7600

MADRID, DOMINADOR O GS
2637 KEOKUK BLOG. D
ST LOUIS, MO 63118
314-892-2066

MAGEE, W. EDWIN IM
RALSTON-PURINA CO.
835 SOUTH 8TH. STREET
ST LOUIS, MO 63188
314-982-3120

MAGINN, R. REILLY GS
621A S 2ND ST.
GLASGOW, MT 59230
314-725-4747

MAGRANE, DIANE M OBG
9411 ENGEL LANE
ST. LOUIS, MO 63132
314-771-7600

MAHAOEVAN, JAMBUNATHAN IM
2838 S. GRANO
ST. LOUIS, MO 63118
314-771-0677

MAHE, GEO A IM
911 S BRENTWOOO BLVD
ST LOUIS, MO 63105
314-727-5336

MAHER, THOS F R
621 S NEW BALLAS RO
ST LOUIS, MO 63141
314-567-4442

MAITZ, CARLOS A OBG
BOX 3007
US NAVAL HOSPITAL
FPO MIAMI, FL 34051

MAJORS, PATRICK F IM
950 FRANCIS
ST. LOUIS, MO 63105
314-863-7766

MALIK, SARFRAZ A GE
6651 CHIPPEWA
SUITE 218
ST LOUIS, MO 63109
314-781-1580

MALMBERG, VIRGIL L P
OEPT. OF PSYCHIATRY
4940 AUDUBON AVE.
ST. LOUIS, MO 63110
314-454-2848

MALONEY, ROBT M U
16 HAMPTON VILLAGE PLAZA
ST LOUIS, MO 63109
314-351-4433

MALT, SHERWIN H GS
522 N NEW BALLAS RO
ST LOUIS, MO 63141
314-569-0770

MANANSALA, ANTONIO Q FP
P. O. BOX 388
1723 JEFFCO BLVD.
ARNOLO, MO 63010
314-296-4422

MANGELSOORF, THOMAS K P
621 S. NEW BALLAS
ST. LOUIS, MO 63141
314-567-0100

MANION, MARIA E CHP
522 N NEW BALLAS RD
SUITE 382
ST LOUIS, MO 63141
314-567-5280

MANION, PETER J PO
6405 MURDOCH AVE.,
ST LOUIS, MO 63109

MANLEY, CHAS B U
500 S. KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-3385

MANNIS, CHARLES I ORS
522 N NEW BALLAS RO
ST LOUIS, MO 63141
314-432-2323

MANSKE, PAUL R ORS
4960 AUOUBON AVE.
ST LOUIS, MO 63110
314-454-2724

MANTENA, RAJU N AN
571 PRINCEWAY CT.
MANCHESTER, MO 63011
314-361-1212

MARANAN, DIOSDADO L EM
4061 JEFFCO BLVO.
SUITE #4
ARNOLD, MO 63010
314-464-5474

MARAVILLA, LEVY M GP
4211 BAYLESS AVE
ST LOUIS, MO 63123
314-638-2448

MARBAN, MANUEL I CLP
4141 FOREST PARK
ST. LOUIS, MO 63108
314-531-3810

MARBARGER, JOHN P JR CDS
SUITE 3108 QUEENY TOWER
4989 BARNES HOSP PLAZA
ST. LOUIS, MO 63110
314-454-3457

MARCHOSKY, JOSE A NS
1507 CERULEAN OR
ST LOUIS, MO 63141
314-367-8787

MARCUS, MORRIS D D
8515 DELMAR
ST LOUIS, MO 63124
314-991-1174

MARCUS, ROBERT H EM
4989 BARNES HDSPITAL
ST. LOUIS, MO 63110
314-454-5229
MARET, CHRISTOPHER R IM
819 LOCUST
ST. LOUIS, MO 63101
314-621-4300
MARGDLIS, DAVID M GE
11155 DUNN RD.
ST. LOUIS, MO 63136
314-355-4010
MARGOLIS, RICHARD M PD
SUITE 490 DEPAUL PROF. BLDG.
12255 DEPAUL DRIVE
BRIDGETON, MO 63044
314-739-5333
MARGOLIS, ROBERT P N
11155 DUNN RD.
ST. LOUIS, MO 63136
314-355-3355
MARGULIES, THOMAS D IM
621 S NEW BALLAS RD
ST. LOUIS, MD 63141
314-432-3456
MARMOR, WM A OTO
1233 GUELBRETH LN
ST LOUIS, MO 63141
MARSH, JEFFREY L PS
500 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-2559
MARSHALL, JAY P II IM
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-878-6260
MARTEL, DOMINIOUE J AN
7344 PRINCETON AVE
ST LOUIS, MO 63130
314-965-7000
MARTIN, DANL J OBG
MERCY DOCTOR'S BLVD.
621 S NEW BALLAS RD
ST. LOUIS, MO 63141
314-432-8505
MARTIN, DAVID S R
1383 WHITE ORCHARD
ST LDUIS, MO 63141
314-865-3333
MARTIN, FREDERICK W OBG
325 N KIRKWOOD RD
ST LOUIS, MO 63122
314-966-4920
MARTINEZ, ARMANDO I ORS
122 GRAESER
CREVE COEUR, MO 63141
MARTIREZ, EMMANUEL R
7521 W. FLORISSANT
ST. LOUIS, MO 63136
314-389-6060
MARTZ, JOHN C PD
325 N KIRKWOOD RD
ST LOUIS, MO 63122
314-966-4555
MASSIE, EDWARO CD
9806 LITZSINGER ROAD
ST LOUIS, MO 63124
MASTERS, WM H OBG
24 N. KINGSHIGHWAY BLVO.
ST LOUIS, MO 63108
314-361-2377
MATHEW, RUBY OBG
224 S. WOOOSMILL RD.
CHESTERFIELO, MO 63017
314-878-2233
MATTHEWS, JOHN G IM
3707 WATSON RD
ST LOUIS, MO 63109
314-781-3886
MAUGHS, SYDNEY B P
1034 S BRENTWOOD BLVO
ST LOUIS, MO 63117
314-721-8242
MAUPIN, KATHY C OBG
615 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-6000
MAXWELL, RICHARO W IM
5257 LINOELL BLVO.
ST LOUIS, MO 63108
MAYER, ROBT A IM
3009 N. BALLAS RD.
SUITE #108
ST LOUIS, MO 63131
314-569-3990
MAYFIELD, ROSS AN
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-6880
MAYUGA, EDGARDO G AN
10010 KENNERLY RO
ST LOUIS, MO 63128
314-525-1969
MC ADAM, CHAS R FP
7516 FLORISSANT RO
ST LOUIS, MO 63121
314-381-0477
MC AFEE, C. ALAN GS
5505 DELMAR BLVD RM 300
ST LOUIS, MO 63112
314-367-8088

MC ALISTER, WM H R
510 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-3115
MC CALL, EDWIN L US
3751 CEDARIDGE RD.
KALAMAZOO, MI 49008
MC CARTHY, CHRISTOPHER E IM
4600 S. LINDBERG
ST. LOUIS, MO 63127
314-842-5211
MC CARTHY, JOHN M IM
1035 BELLEVUE AVE
ST LDUIS, MO 63117
314-645-2810
MC CLENNAN, BRUCE L DR
510 SOUTH KINGSHIGHWAY
ST. LOUIS, MO 63110
314-454-2191
MC CLINTOCK, MARTIN B FP
14382 WOODLAKE
CHESTERFIELD, MD 63017
314-434-3333
MC COOL, JAMES F IM
3915 WATSON RD
ST LOUIS, MO 63109
314-644-7100
MC COWN, ALLAN H R
9801 LDG CABIN CT
ST LOUIS, MO 63124
314-727-0012
MC GINNIS, WM F OBG
224 SO. WOODS MILL RD
SUITE 450
CHESTERFIELD, MO 63017
314-434-2454
MC GUIRE, BERNARD J IM
615 SOUTH NEW BALLAS RD.
CREVE COEUR, MO 63141
314-569-6959
MC KELVEY, JOHN K PD
4440 LINDELL #203
ST. LOUIS, MO 63108
314-454-6000
MC KINNEY, JOE K P
777 S NEW BALLAS RD
ST LOUIS, MD 63141
314-569-2266
MC KINNEY, JOHN W ENT
861 PEBBLEFIELD
MANCHESTER, MO 63011
314-394-2044
MC LAREN, A. LESLEY FP
3908 S. GRANO
ST. LOUIS, MO 63118
314-771-0045
MC LEAN, ROYAL C GP
520 W JEWEL AVE
KIRKWOOD, MO 63122
MC MULLIN, FORBES A ORS
12615 OLO TESSON ROAD
ST LOUIS, MO 63128
314-849-0311
MC MURRAY, HERBERT C FP
356 WATFORO OR.
BALLWIN, MO 63011
MC NALLEY, MICHAEL OBG
10733 BIG BENO
ST LOUIS, MO 63122
314-821-1315
MC NAMARA, JOHN J R
21 BERKSHIRE
RICHMOND HEIGHT, MO 63117
314-645-2838
MEADOR, JAMES R GS
10367 OXFORO HILL ORIVE
ST LOUIS, MO 63141
MEADOWS, C. DOUGLAS OM
777 S NEW BALLAS RO
ST LOUIS, MO 63141
314-567-6581
MEOLER, JOHN F OBG
621 S. NEW BALLAS RD.
ST LOUIS, MO 63141
314-872-9192
MEOLER, P. LOUIS D
1034 SOUTH BRENTWOOD
ST LOUIS, MO 63117
314-725-6267
MEHAN, DONALD J U
1035 BELLEVUE
ST LOUIS, MO 63117
314-644-6767
MEHRA, RACHNA PO
6651 CHIPPEWA SUITE 306
ST. LOUIS, MO 63109
314-644-3927
MEHRA, RAVI IM
4590 S. LINDBERGH
ST. LOUIS, MO 63127
314-843-3454
MEHRA, S K IM
6651 CHIPPEWA SUITE 306
ST LOUIS, MO 63109
314-644-3927
MEHRA, USHA OBG
4590 S. LINDBERGH
ST. LOUIS, MO 63127
314-843-3454

MEINBERG, WM H DPH
11051 YOLANDA AVE.
NDRTHRIDGE, CA 91326
MEINERS, DAVID J GS
1732 TRALEE
MANCHESTER, MO 63011
314-771-7600
MEINERS, PAUL N GS
621 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-993-2930
MEINERS, THEODORE M OBG
224 S. WOODS MILL RD.
CHESTERFIELD, MD 63017
314-576-0930
MELICK, WM F U
911 S BRENTWDOD #228
ST LOUIS, MD 63105
314-725-6551
MELL, ROGER L ORS
224 S. WOODS MILL ROAD
SUITE 255
CHESTERFIELD, MO 63017
314-434-3240
MELSON, G. LELAND DR
510 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-2191
MELTZER, DAVID W OPH
660 S. EUCLID
ST LOUIS, MD 63110
314-454-3104
MELZER, JULIET S GS
U OF CALIF. TRANSPLANT SERVI
M884
SAN FRANCISCD, CA 94143
415-666-1551
MENDELSOHN, GEORGE S NS
5505 DELMAR
ST LOUIS, MO 63112
314-367-8787
MENDELSDHN, ROBT S IM
522 N. NEW BALLAS
ST LOUIS, MD 63141
314-567-1902
MENDELSON, DAVID F N
141 N MERAMEC AVE
ST LOUIS, MO 63105
314-726-3202
MENDONSA, LAWRENCE E OBG
9811 W FLORISSANT BLVD
ST LOUIS, MO 63136
314-522-3443
MENESES, ORLANOO G FP
11327 GRAVOIS
ST LOUIS, MO 63126
314-843-3337
MERENDA, FRANK J ORS
777 S. NEW BALLAS RO.
CREVE COEUR, MO 63141
314-567-5850
MERENDA, SAM J R
6651 CHIPPEWA
ST LOUIS, MO 63109
314-647-8893
MERKEL, JOHN U FP
615 S. NEW BALLAS
ST. LOUIS, MO 63141
314-569-6010
MERRIMS, THEOOORE OBG
8631 DELMAR BLVO
ST LOUIS, MO 63124
314-993-5563
MERRITT, BURCH A PO
12937 TIMMOR CT
ST LOUIS, MO 63131
314-383-2953
MERRITT, DIANE F OBG
4911 BARNES HOSPITAL PLAZA
ST. LOUIS, MO 63110
314-454-2330
MESTRES, HUGH M PD
12660 LAMPLIGHTER SQ
ST LOUIS, MO 63128
314-842-0330
MEYER, HARRY E P
621 S NEW BALLAS RO.
ST. LOUIS, MO 63141
314-659-1717
MEYER, JAMES E FP
USAF HOSPITAL
MYRTLE BEACH AFB
MYRTLE BEACH, SC 29577
803-238-7276
MEYER, JAY P
763 S. NEW BALLAS RO
ST LOUIS, MO 63141
314-569-0212
MEYER, JOHN S CLP
216 S KINGSHIGHWAY
ST. LOUIS, MO 63110
314-454-7190
MEYER, MELVIN E OPH
6651 CHIPPEWA
ST LOUIS, MO 63109
314-645-4100
MEYER, ROBERT C GS
5869 WALSH
ST. LOUIS, MO 63109
314-644-6300

MEYER, WAYNE W GS
12255 DEPAUL DR.
SUITE 755
ST. LOUIS, MO 63044
314-739-6060
MEYERS, ELSIE F AN
6364 ALEXANDER OR
CLAYTON, MO 63105
314-454-2858
MEYERS, JOHN B IM
120 N. FORSYTH BLVO
CLAYTON, MO 63105
314-726-2425
MEYERS, ROBT W P
4524 FOREST PARK BLVD
ST LOUIS, MO 63108
314-367-8424
MICHAEL, VERNON E GS
SUITE 343-FRISCO BLOG.
906 OLIVE
ST LOUIS, MO 63101
314-421-4004
MICHAELREE, JOHN F FP
921 LA CHERIE
MANCHESTER, MO 63011
MIODLETON, JERRY N OBG
777 S NEW BALLAS RO
ST LOUIS, MO 63141
314-569-0055
MIER, THOS M OBG
900 OAKHAVEN
COLUMBIA, MO 65201
314-445-3242
MIKHAIL, GEORGE OBG
1325 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-776-6095
MIKOLAJCZAK, JAMES P
10004 KENNERLY RD.
SUITE 255
ST LOUIS, MO 63128
314-842-6440
MILOER, BARRY D OPH
211 N MERAMEC AVE
CLAYTON, MO 63105
314-727-4000
MILDER, BENJ OPH
10 TERRYHILL LANE
ST LOUIS, MO 63131
314-727-4000
MILES, PAUL W OPH
15 RIDGE CREEK RO
ST LOUIS, MO 63141
MILL, WM B TR
1325 S. GRAND
DEPT OF RADIATION, ONC.
ST. LOUIS, MO 63104
314-773-1974
MILLANGUE, CONSOLACION P IM
8059 WATSON RD
WEBSTER GROVES, MO 63119
314-961-8207
MILLANGUE, RAFAEL M GS
8059 WATSON RD
WEBSTER GROVES, MO 63119
314-961-8206
MILLER, CHARLES W O
10004 KENNERLY RD.
ST. LOUIS, MO 63128
MILLER, CHAS JR IM
12166 BIG BEND BLVD
KIRKWOOD, MO 63122
314-821-9150
MILLER, EDWARD J IM
522 N NEW BALLAS STE 34
ST LOUIS, MO 63141
314-567-3113
MILLER, GEOFFREY W R
60 BERKSHIRE
ST LOUIS, MO 63117
314-441-6730
MILLER, JAMES E OPH
777 S. NEW BALLAS RO.
ST LOUIS, MO 63141
314-567-0644
MILLER, JAMES R PTH
99 TRENT DR
ST LOUIS, MO 63124
314-645-1960
MILLER, JULE P P
4524 FOREST PARK BLVO
ST LOUIS, MO 63108
314-367-2660
MILLER, ROBT N AN
621 S. NEW BALLAS RO.
ST LOUIS, MO 63141
314 569-6880
MILLER, WM V CLP
4050 LINOELL BLVD
ST LOUIS, MO 63108
314-658-2131
MILSTEAD, KENNETH L JR AN
4817 DORSET AVE
CHEVY CHASE, MO 20015
MILSTER, CLYOE R OPH
7443 HIBBARO LANE
ST LOUIS, MO 63123
MINNIHAN, ROBT W P
111 S. BEMISTON AVE.
ST LOUIS, MO 63105
314-469-1452
MIRBAHA, MITCHELL M ORS
4110 VON TALGE RD
ST LOUIS, MO 63128
314-894-2404
MISCHNICK, CAROL R PS
10004 KENNERLY RD
ST. LOUIS, MO 63128
314-842-5885
MISHKIN, MARVIN R ORS
522 N NEW BALLAS RO
ST LOUIS, MO 63141
314-432-2323
MISKOVSKY, EMIL F IM
12255 OEPAUL DR. SUITE 865
BRIDGETON, MO 63044
314-291-7730
MISSEY, WILBURN C IM
2439 BAXTON WAY
CHESTERFIELO, MO 63017
MISTRY, TEHMTON S OBG
35 N CENTRAL
ST LOUIS, MO 63105
314-727-3439
MITCHELL, JOHN S IM
2120 DEL NORTE
ST. LOUIS, MO 63117
314-569-6000
MITHEN, FRANCIS A N
3877 MARIETTA
ST LOUIS, MO 63121
314-454-2401
MOOIN, JEFFREY J CHN
555 N NEW BALLAS RO.
SUITE 100
ST. LOUIS, MO 63141
314-569-0720
MOELLER, DELBERT OBG
777 S. NEW BALLAS RO
ST LOUIS, MO 63141
314-872-7798
MOHS, FRANK R IM
12303 DEPAUL OR.
BRIDGETON, MO 63044
314-344-6264
MOLDEN, C. SCOTT S IM
ST. LOUIS MEDICAL CLINIC
3009 N. BALLAS RD.
ST LOUIS, MO 63131
314-432-1111
MOLDEN, CHAS A FP
7520 NATURAL BRIDGE RD
ST LOUIS, MO 63121
314-385-4555
MOMTAZEE, SAM OBG
224 S. WOODS MILL RO.
ST LOUIS, MO 63017
314-878-1700
MONAFO, WM W GS
4989 BARNES HOSPITAL PLAZA
ST LOUIS, MO 63110
314-454-2080
MONAT, SEYMOUR M OBG
8631 DELMAR BLVD
ST LOUIS, MO 63124
314-993-3881
MONTANI, CHAS FP
2334 MACKLIND
ST LOUIS, MO 63110
314-771-4082
MONTERUBIO, FRED R JR OBG
10449 ST. CHARLES ROCK RD.
ST. ANN, MO 63074
314-429-1900
MONTES, ARTURO C FP
4585 WASHINGTON
SUITE C-4
FLORISSANT, MO 63033
314-921-4550
MONTES-OE-OCA, JULIO IM
950 FRANCIS PL
CLAYTON, MO 63105
314-726-2828
MONTGOMERY, AUSTIN F IM
3009 N. BALLAS RD.
SUITE 107
ST LOUIS, MO 63131
314-872-8225
MOOLSINTONG, PORNCHAI R
447 TWIN CREEK RO.
ST. LOUIS, MO 63141
314-768-8250
MOON, THOS R JR N
12166 BIG BEND BLVO
KIRKWOOD, MO 63122
314-965-1844
MOORE, ALVA IM
5142 RAYMONO AVE
ST LOUIS, MO 63113
MOORE, HARRY G JR CHP
141 N MERAMEC
#107
ST LOUIS, MO 63105
314-726-2770
MOORE, WALTER L N
215 N. CENTRAL AVE.
CLAYTON, MO 63105
314-725-1526
MORA, ALVARO OBG
11119 SCHUETZ RO.
ST. LOUIS, MO 63141
314-771-7600
MORALES, JULIO CHP
369 NORTH TAYLOR
ST LOUIS, MO 63108
314-725-5775
MORAN, CHRISTOPHER J DR
2821 N. BALLAS RO.
ST. LOUIS, MO 63131
314-432-5284
MORAN, THOS M P
SUITE 203
889 S. BRENTWOOO
ST LOUIS, MO 63105
314-727-9541
MORGAN, HARRY C ORS
4989 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-361-2253
MORGAN, STEPHAN S OPH
16 HAMPTON VILLAGE PLAZA
ST LOUIS, MO 63109
314-351-5330
MORGAN, WILLY J C U
4601 STATE ST.
EAST ST. LOUIS, IL 62205
618-874-6792
MORITZ, GERALD OTO
12255 DEPAUL OR.
BRIDGETON, MO 63044
314-291-8787
MORITZ, MARK W GS
8729 DELMAR BLVO.
ST. LOUIS, MO 63124
314-454-2000
MORLEY, MARY A OBG
2821 NORTH BALLAS RD.
ST. LOUIS, MO 63131
314-872-3730
MORRIN, KEVIN OBG
5251 WESTMINSTER PL
ST LOUIS, MO 63108
MORRIS, ALAN H ORS
522 N NEW BALLAS RO
ST LOUIS, MO 63141
314-432-2323
MORRIS, MARY E OBG
2710 S GRAND APT 801
ST LOUIS, MO 63118
MORRIS, R. WILLIAM IM
1004 KENNERLY RD.
SUITE 2355
ST. LOUIS, MO 63128
314-961-0370
MORRISON, ARLEN E IM
224 SOUTH WOODS MILL RO.
SUITE 370
CHESTERFIELD, MO 63017
314-878-2462
MORTENSEN, FREDE IM
26 OLD WESTBURY LANE
ST LOUIS, MO 63119
MOSES, ROBT A OPH
660 S EUCLIO AVE
ST LOUIS, MO 63110
314-454-3094
MOSLEY, JULIAN C GS
3737 N KINGSHIGHWAY
ST LOUIS, MO 63115
314-383-0133
MOSQUERA, JAIME J OBG
1245 GRAHAM ST
FLORISSANT, MO 63031
314-838-8000
MOTCHAN, DENNIS G IM
3394 MCKELVEY RD.
BRIDGETON, MO 63044
291-3410
MOWREY, WM O FP
7071 LINDELL BLVO.
ST LOUIS, MO 63130
MUCHNICK, RICHARD L IM
12494 TESSON FERRY RD.
ST. LOUIS, MO 63128
314-849-6000
MUCKERMAN, RICHARO C II OBG
ST. JOHN'S MERCY MEO. CTR.
BALLAS & CONWAY ROS.
ST. LOUIS, MO 63141
314-567-5515
MUCKERMAN, RICHARO I OBG
621 S NEW BALLAS RO
ST LOUIS, MO 63141
314-567-5515
MUDO, J.F. GERARD CO
1325 S GRAND BLVO
ST LOUIS, MO 63104
314-771-7600
MUELHEIMS, GERHARO H IM
1515 LAFAYETTE AVE
ST LOUIS, MO 63104
314-622-5374
MUELLER, CLARENCE E IM
522 N NEW BALLAS RO-
ST LOUIS, MO 63141
314-872-7332
MUELLER, HOWARO A IM
9101 S. BROADWAY
ST. LOUIS, MO 63125
314-631-7800

MUELLER, JOHN J PTH
7300 CHRISTOPHER DR.
ST. LOUIS, MO 63129
314-846-9031

MUELLER, JOS A FP
2968 SPRING WATER DR.
ST LOUIS, MO 63129
314-772-3456

MUELLER, MORRIS A IM
4917 RAVENSWOOD APT 111
SAN ANTONIO, TX 78227

MUELLER, ROBT J P
16 HAMPTON VILLAGE PLAZA
ST LOUIS, MO 63109
314-351-5509

MUELLER, WILBUR K R
9645 BIG BEND BLVD
BETHESDA DILWORTH ME
ST LOUIS, MO 63122

MUHAMMUD, FAQUIR IM
11155 DUNN RD
SUITE 210 E
ST LOUIS, MO 63136
314-355-6700

MULLARKY, WILBUR A IM
10646 ST CHARLES ROCK RD
ST ANN, MO 63074
314-426-5161

MULLENGER, KEITH L OR
7210 W. MAIN ST.
BELLEVILLE, IL 62223
618-397-3448

MULLINS, JOHN E IM
3009 N BALLAS RD.
ST LOUIS, MO 63131
314-567-6610

MUNCY, GARY A AN
427 HERWORTH
CHESTERFIELD, MO 63017
314-965-4691

MURDOCK, NATHANIEL OBG
SUITE 16310-W
4949 BARNES HOSP. PLAZA
ST LOUIS, MO 63110
361-4880

MURPHY, DANIEL J IM
3394 MCKELVEY ROAD
HAZELWOOD, MO 63044

MURPHY, JAMES P CD
911 S BRENTWOOD BLVD
CLAYTON, MO 63105
314-862-5252

MURPHY, WM A JR OR
510 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-2191

MUSCHANY, NORMAN K OBG
522 N NEW BALLAS RD
ST LOUIS, MO 63141
314-567-1013

MYERS, GARY H N
METROPOLITAN NEUROLOGY, LTD.
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-878-1110

MYERS, IVAN T OBG
35 N CENTRAL AVE
ST LOUIS, MO 63105
314-727-3439

NAHM, CHUNG C IM
3535 S. JEFFERSON AVE
ST LOUIS, MO 63118
314-664-2600

NAIDU, GONUGUNTLA IM
10004 KENNERLY RD.
SUITE 257
ST LOUIS, MO 63128
314-842-6333

NAIR, KALADY P IM
4201 S. CLOVERLEAF
ST. CHARLES, MO 63301
314-922-9220

NALAGAN, MARCOS C IM
9730 EAST WATSON RD.
ST LOUIS, MO 63126
314-842-7550

NARAYAN, DILIP L GE
5505 DELMAR
SUITE 310
ST LOUIS, MO 63112
314-361-2882

NARKIEWICZ, LAWRENCE S IM
533 COUCH SUITE G20
ST LOUIS, MO 63122
314-965-5868

NARYKA, JOSEPH J U
911 S BRENTWOOD #228
ST LOUIS, MO 63105
314-725-6551

NASEER, RIAZ A N
1338 TOPPING RD.
ST LOUIS, MO 63131
314-837-6700

NASH, HELEN E PD
1441 N GRAND
ST LOUIS, MO 63106
314-535-8353

NASH, HOMER E JR PD
3737 N KINGSHIGHWAY
SUITE 101
ST LOUIS, MO 63118
314-261-5250

NATHAN, LESTER J GS
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5727

NEAR, DAVID M GS
1125 GRAHAM ROAD
FLORISSANT, MO 63031
314-838-5700

NEEDLES, BURTON M IM
12255 DEPAUL DR. STE. 190
BRIDGETON, MO 63044
314-355-5597

NELSON, J. ROGER CD
533 COUCH SUITE G20
ST LOUIS, MO 63122
314-965-5868

NELSON, JAMES S PTH
DEPARTMENT OF PATHOLOGY
660 S. EUCLID
ST LOUIS, MO 63110
314-454-6042

NEMEC, EDWARD S R
2878 S LINDBERG
ST. LOUIS, MO 63131

NEMEC, STANLEY S R
6500 CHIPPEWA STE 1
ST LOUIS, MO 63109
314-351-1140

NEPUTE, JAMES A R
615 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-6031

NERAD, JEFFREY A OPH
3665 VISTA
ST. LOUIS, MO 63104
314-865-3210

NEUMAN, NEAL U
456 N NEW BALLAS RD
ST. LOUIS, MO 63141
314-567-6071

NEWMAN, MATTHEW OPH
1034 S. BRENTWOOD
ST. LOUIS, MO 63117
314-863-8866

NEWMARK, LEONARD N IM
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-3330

NEWPORT, GERALD OBG
77 WESTPORT PLAZA
SUITE 265
ST. LOUIS, MO 63141
314-878-7333

NEWTON, GORDON IM
141 N MERAMEC SUITE 202
ST LOUIS, MO 63105
314-725-8580

NGUYEN, LOI O FP
348 HUNTER'S GLEN CT.
ELLISVILLE, MO 63011
314-772-1456

NICKEL, JAMES F IM
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-432-3456

NICOLAI, CHAS H U
3009 N. BALLAS RD.
SUITE 215
ST LOUIS, MO 63131
314-432-4575

NIEDERMEYER, GEO J OBG
6744 CLAYTON RD
ST LOUIS, MO 63117
314-645-2003

NIESEN, ANNA R IM
1035 BELLEVUE AVE.
SUITE 500
ST. LOUIS, MO 63117
314-781-8405

NIESEN, FRANK J GS
6500 CHIPPEWA
ST LOUIS, MO 63109
314-352-5193

NIESEN, THOMAS E GS
4960 AUDUBON
ST LOUIS, MO 63110
314-454-3042

NIEVA, DELFIN T AN
5291 BRASS LANTERN
ST LOUIS, MO 63128
314-772-1456

NIGH, CHAS A GS
3915 WATSON RD
ST LOUIS, MO 63109
314-644-7100

NISHI, TOSHIO PTH
3071 ANDOVER DR.
ST. LOUIS, MO 63121
314-383-1891

NOLAN, CHAS J R
312 CHATEAUGAY
CHESTERFIELD, MO 63017

NOLLER, HENRY W IM
9440 MIDLAND AVE
ST LOUIS, MO 63114
314-426-3300

NOMURA, ROY M PTH
13276 MANCHESTER RD.
ST LOUIS, MO 63131
314-822-0990

NORDLICHT, SCOTT M IM
SUITE 4104 QUEENY TOWER
BARNES HOSPITAL PLAZA
ST. LOUIS, MO 63110
314-367-3734

NORLAND, CHAS C IM
ST. LOUIS MEDICAL CLINIC
3009 N. BALLAS RD.
ST LOUIS, MO 63131
314-432-1111

NORWOOD, THEODORE A JR GS
3009 N BALLAS RD
ST. LOUIS, MO 63131
314-569-3838

NOUHAN, JOS G JR OBG
621 S NEW BALLAS STE 56
CREVE COEUR, MO 63141
314-432-3723

NOURI, HASSAN OBG
12622 ALSWELL LANE
ST LOUIS, MO 63128
314-842-4000

NOVACK, MARK A IM
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-878-7220

NUETZEL, JOHN A IM
911 S BRENTWOOD BLVD
CLAYTON, MO 63105
314-726-1126

NUNEZ, MARIA A PD
2821 BALLAS RD STE 135
ST LOUIS, MO 63131
314-872-3236

NWAOBASI, SAM GS
11277 ASHCROFT LANE
ST. LOUIS, MO 63136
314-355-3487

NYE, ROBT S GP
8701 GRAVOIS AVE
ST LOUIS, MO 63123
314-832-2754

O'BANNON, LON W IM
1125 GRAHAM RD
FLORISSANT, MO 63031
314-838-5700

O'BRIEN, EDWARD J JR R
6150 OAKLAND AVE
ST LOUIS, MO 63139
314-645-8510

O'BRIEN, ROBERT M ORS
950 FRANCIS PLACE
ST LOUIS, MO 63105
314-862-2012

O'CONNELL, TIMOTHY PS
777 S. NEW BALLAS
SUITE 318 W
ST LOUIS, MO 63141
314-991-2151

O'CONNOR, ROBT J FP
11133 DUNN RD.
ST. LOUIS, MO 63136
314-355-2300

O'DEA, BARBARA S IM
607 A COUNTRY CLUB RD.
BINGHAMTON, NY 13903

O'DONNELL, FRANCIS E OPH
3655 VISTA AVE.
ST. LOUIS, MO 63110
314-772-9200

O'DONNELL, JOS V IM
1661 DUNMORR
ST LOUIS, MO 63131
314-872-3307

O'DOWD, JAMES A GP
9405 MACKENZIE RD
ST LOUIS, MO 63123

O'KEEFE, JOHN J IM
3555 SUNSET OFFICE DR.
ST. LOUIS, MO 63127
314-821-4124

O'KEEFE, JOS D OBG
533 COUCH AVE.
KIRKWOOD, MO 63122
314-965-3213

O'NEAL, LAWRENCE W GS
615 SOUTH NEW BALLAS RD.
ST LOUIS, MO 63141
314-569-6440

O'NEAL, PATRICIA L P
4989 BARNES HOSP PLAZA-
ST LOUIS, MO 63110
314-367-4500

O'REILLY, O. ELLIOTT ORS
1465 S. GRAND BLVD.
ST LOUIS, MO 63104
314-577-5646

O'SULLIVAN, DANL F GS
10007 KENNERLY RD
SUITE A
ST LOUIS, MO 63128
314-849-2727

OAKLEY, MARGARET M AN
407 STEEPLE CHASE
ST LOUIS, MO 63131
314-965-1567

OBERMEYER, CHAS G AN
3957 HOLLY HILLS BLVD
ST LOUIS, MD 63116
OCHOA, PEDRO GS
3555 RITZ CENTER
ST. LOUIS, MD 63125
DERTLI, ROBERT IM
12494 TESSON FERRY RD.
ST. LOUIS, MO 63128
314-849-6000
DETTER, DONALD L A
1040 N MASON RD
ST LOUIS, MO 63141
314-434-7445
OGLESBY, RICHARD B OPH
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-432-5478
OHLMS, DAVID L P
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5011
OJASCASTRO, ALEJANDRO C FP
9465 CRDOKED CREEK TRAIL
ST LOUIS, MO 63127
314-773-1585
OKUN, EDWARD OPH
EAST PAVILIDN SUITE 17413
,4949 BARNES HOSP. PLAZA
ST LOUIS, MO 63110
314-367-1181
OLIVER, DAVID A IM
RT. 4, BOX 400C
MDCKINGBIRO LANE
PARIS, TN 38242
314-391-0343
OLK, R. JOSEPH OPH
4949 BARNES HOSP PL
SUITE 17413
ST. LOUIS, MD 63110
314-367-1181
OLLADA, MIGUEL M IM
201 MANCHESTER
MANCHESTER, MD 63011
314-527-2544
DLLINGER, HENRY G PS
3009 NDRTH BALLAS RD.
ST LOUIS, MO 63131
314-872-7800
OMELL, GARY H OR
467 KILLEARN
ST LOUIS, MO 63141
314-361-1212
ONG, ENG L GS
8321 NORTH BROADWAY
ST. LOUIS, MO 63147
314-383-8008
ONG, OFELIA S OBG
8321 NORTH BROAOWAY
ST. LOUIS, MO 63147
314-383-8008
ONKEN, HENRY O PS
106 ABEROEEN
ST LOUIS, MO 63105
314-727-8484
OPPENHEIMER, HENRY E IM
911 S. BRENTWOOO BLVD.
CLAYTON, MO 63105
314-725-9656
OREBIYI, OLUSOLA A GS
5 SHALFLEET CT.
FLORISSANT, MO 63033
314-429-7382
ORENSTEIN, JOSEPH M PUO
417 JACKSON AVE
ST LOUIS, MO 63130
ORGEL, M. NORMAN IM
1 HARCOURT OR
ST LOUIS, MO 63105
314-367-3900
ORGEL, MICHAEL IM
9833 COPPER HILL RO
ST LOUIS, MO 63124
314-367-3900
ORILLE, OSCAR P OR
BOX 10103
CANNON AFB, NM 88103
ORSAY, PAUL K OR
11155 OUNN RD RM 201
ST LOUIS, MO 63136
314-381-6510
ORTBALS, DAVID W IM
8631 DELMAR BLVO
ST LOUIS, MO 63124
314-993-2400
ORTIGUERO, LEOPOLDO M FP
10577 WINOSWEPT OR
ST LOUIS, MO 63128
314-892-2066
ORTILLO, AMADO P OBG
103 N TAYLOR
ST LOUIS, MO 63122
314-821-2624
ORTMEYER, LEROY F IM
11372 FIVE OAKS PARKWAY
ST LOUIS, MO 63128
314-487-6910
OSTAPOWICZ, FRANK OBG
3660 VISTA AVE
ST LOUIS, MO 63110
314-577-6000

DTT, F. THOMAS OPH
3 HILL DRIVE
GLENOALE, MO 63122
314-863-8866
OTT, HAROLO J II OBG
1695 S BRENTWDOD BLVD
ST LOUIS, MO 63144
314-961-2981
OTT, WM J OBG
6420 CLAYTON RD.
ST LOUIS, MD 63117
314-768-8000
OTTOLINI, JAMES L OBG
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-3190
OWEN, JAMES W IM
13190 S. OUTER FORTY RO
CHESTERFIELD, MD 63017
314-434-3330
OWEN, RDBT F IM
12 HACIENDA DR
ST LOUIS, MD 63124
314-837-3720
DWENS, WM D OS
4989 BARNES HOSPITAL PLAZA
DEPT OF ANESTHESIOLOGY
ST LOUIS, MO 63110
314-454-2858
OZMAT, ORHAN M R
4 LAOUE CREST LANE
ST LOUIS, MO 63124
PACKMAN, PAUL P
1034 S. BRENTWOOD
SUITE 1180
ST LOUIS, MO 63117
314-727-1666
PACKMAN, ROBT C IM
4652 MARYLAND AVE.
ST. LOUIS, MO 63108
314-367-3113
PADILLA, PEDRO C U
415 E. CHERRY
P.O. BOX 267
TROY, MO 63379
314-528-7722
PAOILLA, TERESITA C OBG
5505 DELMAR BLVD
ST LOUIS, MO 63112
314-361-0202
PAEZ, MAURO A CLP
11636 AOMINISTRATION OR
ST LOUIS, MO 63141
314-567-3715
PAINE, ROBT IM
5535 DELMAR BLVO
ST LOUIS, MO 63112
314-361-8833
PAINO, ROBERT J IM
7515 HARLAN WALK
ST. LOUIS, MO 63123
314-481-3650
PALAZZO, FRANK A NS
6744 CLAYTON RO
ST LOUIS, MO 63117
314-647-9216
PALETTA, FRANCIS X PS
1035 BELLEVUE
ST LOUIS, MO 63117
314-644-6244
PALETTA, FRANCIS X JR PS
1035 BELLEVUE
ST. LOUIS, MO 63117
314-644-6244
PALETTA, FRANK IM
1040 N. MASON RO
ST LOUIS, MO 63141
314-878-9970
PALETTA, THEOOORE L IM
1040 N. MASON RO
ST LOUIS, MO 63141
314-878-9970
PALETTA, VICTOR L IM
12762 BOENKER
BRIDGETON, MO 63044
314-291-1170
PALMER, STEPHEN M O
1109 LAKESHORE OR.
COLUMBIA, MO 65201
314-882-3141
PAPPALAROO, CARLOS PS
621 S NEW BALLAS RO
ST LOUIS, MO 63141
314-567-5620
PARDO, LEOPOLOO P NS
9936 HIGHWAY 66
ST LOUIS, MO 63126
314-821-2994
PARDO, LOUROES PO
801 S. BRENTWOOO BLVO
ST LOUIS, MO 63105
314-726-1100
PARIKH, SHARAD P GS
11637 W FLORRISANT AVE.
FLORISSANT, MO 63033
314-831-4200
PARIKH, SMITA S R
11637 WEST FLORISSANT AVE.
FLORISSANT, MO 63033
314-831-4200

PARIS, WM H FP
7520 NATURAL BRIDGE RD
NORMANDY, MO 63121
314-385-4555
PARKER, THOS W IM
7298 GREENWAY DR
ST LOUIS, MO 63130
314-863-7766
PARKER, WM D
611 DLIVE ST
ST LOUIS, MO 63101
314-241-3221
PARKS, CHARLES GS
SUITE 129
456 N NEW BALLAS RO
CREVE COEUR, MO 63141
314-569-0130
PARSONS, RICHARD P U
224 S WODDS MILL RD
CHESTERFIELD, MO 63017
314-434-3433
PARTAP, PRABHA PTH
135 W. ADAMS
ST LOUIS, MD 63122
314-821-0113
PARWATIKAR, SADASHIY D P
5400 ARSENAL ST
ST LOUIS, MO 63139
314-644-8163
PASIA, EBELLO T GS
11115 NEW HALLS FERRY
FLORISSANT, MO 63033
314-838-5600
PASKAR, LARRY O R
14337 STABLESTDNE
CHESTERFIELD, MO 63017
314-878-4680
PASSANANTE, BARTHOLOMEW M GS
15 KING LYNN
ST LOUIS, MO 63132
PATEL, JASH I DR
11155 DUNN RD. #304
ST. LOUIS, MD 63136
314-355-5032
PATRICK, ROMAN L PTH
11636 ADMINISTRATION DR
CREVE COEUR, MO 63141
314-567-3905
PAYNE, MEREDITH C PS
1034 SO BRENTWOOO BLVO.
SUITE 778
ST LOUIS, MO 63117
314-727-1337
PAYNE, VAUGHN C R
1423 N GRANO BLVD
ST LOUIS, MO 63106
314-533-4365
PEARLMAN, ALAN L N
517 S EUCLIO AVE
ST LOUIS, MO 63110
314-454-2385
PEARSE, CARLTON S OBG
5236-O WATERMAN
ST. LOUIS, MO 63108
314-367-0399
PEARSON, ANTHONY C IM
7781 A-2 RAVENSRIDGE
ST. LOUIS, MO 63119
314-968-4368
PEARSON, WILLIAM E OBG
12166 BIG BENO
KIRKWOOO, MO 63122
314-821-3500
PEOEN, BURNET W IM
35 N CENTRAL AVE
CLAYTON, MO 63105
314-721-7210
PEOEN, JAMES C JR IM
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-432-3456
PEOEN, JOS C JR GS
224 S. WOOOS MILL RO.
CHESTERFIELD, MO 63017
314-878-2170
PEEBLES, JONATHAN B US
RR #1
BUCHANAN, TN 38222
PELICAN, GEORGE IM
621 S. NEW BALLAS RO.
ST. LOUIS, MO 63141
314-569-2102
PELZ, MORT O OTO
1116 CHANTAL LANE
ST LOUIS, MO 63132
PENILLA, ANTONIO R IM
12255 OEPAUL OR.
BRIDGETON, MO 63044
314-739-1060
PENNELL, RICHARD C GS
6553 LINDENWOOO PLACE
ST. LOUIS, MO 63109
314-644-0354
PENNINGTON, O. GLENN GS
1325 S. GRANO AVE.
ST. LOUIS, MO 63110
314-771-7600
PENNINGTON, F. EUGENE GS
4160 GLIODEN DR
STURGEON BAY, WI 54235

PENNOYER, JAMES OBG
4910 FOREST PARK BLVD
ST LOUIS, MO 63108
314-367-7100
PEPPER, EDWARD G R
6150 OAKLAND AVE
ST LDUIS, MO 63139
314-648-8510
PEPPER, MAX P P
1320 S. GRAND BLVD.
ST LOUIS, MO 63104
314-664-9800
PEREZ, AOAMDR R GS
4415 VERMILLON OR
ST LOUIS, MO 63128
314-789-3313
PEREZ, BLANCA M PTH
10010 KENNERLY DEPT OF PATH.
ST. ANTYONY'S MED CTR.
ST LOUIS, MO 63128
314-991-1078
PEREZ, CARLDS A R
510 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-2134
PEREZ, JEANNIE O PD
12255 DE PAUL DR.
BRIDGETDN, MO 63044
314-739-2207
PEREZ, ROBERT J IM
533 COUCH AVENUE
ST. LOUIS, MO 63122
314-966-0500
PEREZ, ROMEO J 0BG
3009 N BALLAS RO.
ST. LOUIS, MO 63131
314-872-3743
PERINETTI, ENRIQUE P U
11155 DUNN RO.
#2 OFFICE
ST. LOUIS, MO 63136
314-355-1737
PERKINS, OAVID E OR
1034 S BRENTWOOO
ST LOUIS, MO 63117
314-727-0012
PERLMUTTER, STEVEN B OPH
10327 TUXFORO OR.
ST. LOUIS, MO 63141
314-454-2432
PERNOUD, FLAVIUS G III OPH
#15 HUNTLEIGH MANOR
ST LOUIS, MO 63131
314-644-6666
PERNOUD, FLAVIUS G JR OPH
1031 BELLEVUE
ST LOUIS, MO 63117
314-644-6666
PERNOUO, JOAN M OPH
15 HUNTLEIGH MANOR
ST LOUIS, MO 63131
314-353-0016
PERNOUO, MICHAEL F OPH
1031 BELLEVUE
SUITE 501
ST LOUIS, MO 63117
314-644-6666
PERRY, H MITCHELL JR IM
4960 AUOUBON AVE.
ST LOUIS, MO 63110
314-454-3555
PERRY, WM O IM
1034 S BRENTWOOO BLVD
ST LOUIS, MO 63117
314-721-0666
PESKIN, EDWARO G OBG
100 N. EUCLIO AVE.
ST LOUIS, MO 63108
314-658-5251
PETERSON, FREOERICK O PO
8025 OALE AVE
ST LOUIS, MO 63117
314-644-2566
PETERSON, GARY J GS
1325 S. GRANO
DEPT. OF SURGERY
ST LOUIS, MO 63104
314-771-7600
PETKOVICH, FRANK O ORS
11155 OUNN RO.
ST. LOUIS, MO 63136
314-355-7717
PETRUSKA, PAUL J IM
367 CONWAY LAKE OR.
ST LOUIS, MO 63141
314-771-7600
PHILIP, VARKEY E EM
525 COUCH AVE
KIRKWOOD, MO 63122
314-966-1528
PHILLIPS, ABRAHAM M PD
777 S NEW BALLAS RO
ST LOUIS, MO 63141
314-567-9180
PHILLIPS, HANFORO IM
6828 OAKLANO AVE
ST LOUIS, MO 63139
314-647-6313

PHILLIPS, JDHN J ORS
12255 DE PAUL OR
BRIDGETON, MO 63044
314-739-7654
PHILLIPS, KAREN J IM
649 S. NEW BALLAS
ST. LDUIS, MO 64141
314-991-1203
PHILLIPS, WM J IM
5505 DELMAR
ST LOUIS, MO 63112
314-454-1500
PHILPDTT, GORDON W GS
216 SOUTH KINGSHIGHWAY
ST LOUIS, MD 63110
314-454-7170
PHIPATANAKUL, CHINTANA S IM
1125 GRAHAM RO
FLORISSANT, MO 63031
314-838-5700
PHIPATANAKUL, SUPOTE OTO
135 W AOAMS
ST LOUIS, MO 63122
314-966-6656
PHO, MUI O EM
3216 W. ADAMS
ST. CHARLES, MD 63301
314-367-3770
PICCIONE, LEONARD N FP
2377 BRDAOMONT CT
CHESTERFIELD, MO 63017
314-291-7223
PIEPER, GEORGE R IM
P.O. BOX 14490
ST. LOUIS, MO 63178
314-525-5218
PIERRON, ROBERT L ORS
805 BITTERFIELO
BALLWIN, MO 63011
314-394-2349
PIETZ, JEFFREY T PD
703 COUNTRY MANOR LANE
CREVE COEUR, MO 63141
314-878-3118
PIGNOTTI, BLASE J OBG
649 S. NEW BALLAS RO.
ST. LOUIS, MO 63141
314-432-0349
PILEPICH, MILIENKO V R
4511 FOREST PARK
ST. LOUIS, MO 63108
314-454-3381
PILLA, LAWRENCE A R
#7 HOMELAND PL
ST LOUIS, MO 63109
314-645-2833
PIMENTEL, ESPERANZA M FP
2323 CHAMBERS
ST LOUIS, MO 63136
314-867-2736
PIMENTEL, MAURICIO F FP
VA HOSPITAL
915 NO GRANO
ST LOUIS, MO 63125
314-867-2736
PINEDA, HECTOR O IM
4201 HEREFORO
ST LOUIS, MO 63109
314-481-8028
PIPER, AUGUST T IM
4903 MARTIN LUTHER KING
ST LOUIS, MO 63113
314-367-2350
PITSINGER, N. BRUCE GS
224 S. WOOOS MILL RD.
SUITE 540
CHESTERFIELO, MO 63017
314-878-0848
PITTMAN, GERALO R PTH
5 HIGH ACRES DR
ST LOUIS, MO 63132
314-968-1616
PITTMAN, SUSAN PO
2821 N. BALLAS RO.
ST LOUIS, MO 63131
314-567-0016
PLAX, STEVEN I PD
8025 DALE
ST LOUIS, MO 63117
314-644-2566
POLINENI, SUBBARAO GS
6500 CHIPPEWA
ST. LOUIS, MO 63109
314-832-7227
POLITO-COLVIN, JUANITA C PO
1220 WALORON
ST. LOUIS, MO 63130
PON, MARCELINO FP
2928 HIGH RIDGE BLVD.
HIGH RIDGE, MO 63049
314-677-5711
PONNURU, BHASKARA M AN
13100 THORNHILL OR.
ST. LOUIS, MO 63131
314-849-2488
POPP, DENNIS A IM
777 S. NEW BALLAS RO.
ST. LOUIS, MO 63141
314-567-5529

PORPORIS, ARTHUR A R
824 RENDERER OR
ST LOUIS, MD 63122
314-361-7373
PDRTUGAL, ANTONIO O GS
3917 BRANNON AVE.
ST LOUIS, MD 63109
314-352-8881
PORTUDNDO, BONAVENTURE C PTH
3532 FLDRA COURT
ST LOUIS, MD 63104
POST, STEPHEN L P
4524 FOREST PARK APT 20
ST LOUIS, MO 63108
314-361-8333
PDTASHNICK, ROBT IM
12255 DE PAUL DR
SUITE 865
BRIDGETON, MO 63044
314-291-7730
POTTER, REESE H P
10 HILSHIRE TERR
WEBSTER GROVES, MO 63119
314-291-5054
POTTS, DAN E IM
224 S. WDDDS MILL RD.
CHESTERFIELD, MD 63017
POWELL, CHARLES B ORS
1125 GRAHAM RO
FLORISSANT, MO 63031
314-838-5700
POWELL, EARL A U
11114 PALMERAS OR
SUN CITY, AZ 85351
POWELL, JOHN A O
1034 S. BRENTWOOO BLVO.
ST LOUIS, MO 63117
314-863-7080
PRENSKY, ARTHUR L CHN
OEPT OF PEDIATRICS
500 S KINGSHIGHWAY
ST LOUIS, MO 63178
314-454-6084
PRESNELL, CLEITUS A OTO
6744 CLAYTON RO
ST LOUIS, MO 63117
314-645-3700
PRICE, KENNETH C IM
5505 OELMAR- ROOM 201
ST LOUIS, MO 63112
314-361-2910
PROBST, RAYMONO E OBG
10345 WATSON RO
ST LOUIS, MO 63127
314-965-6033
PROBSTEIN, JACOB G GS
4943 LINDELL BLVO
ST LOUIS, MO 63108
314-367-3822
PROPHETE, BEAUMANOIR U
SUITE 906 100 N. EUCLID
ST LOUIS, MO 63108
314-361-3777
PROSKEY, VINCENT J IM
522 N NEW BALLAS RO
ST LOUIS, MO 63141
314-567-3113
PRUETT, BURCHARO S OS
10321 RICHVIEW DR
ST LOUIS, MO 63127
PRUETT, DON S GS
10 LOG CABIN DR
ST LOUIS, MO 63124
314-726-5225
PURCELL, HARRY K GS
911 S BRENTWOOD BLVO
ST LOUIS, MO 63105
314-725-4747
PURCELL, JOHN J JR OPH
6744 CLAYTON RO
ST LOUIS, MO 63117
314-647-2277
PURO, EOWARO A IM
11115 NEW HALLS FERRY RO
FLORISSANT, MO 63033
314-838-0222
QUAOIR, HUMAYUM IM
10004 KENNERLY RO
ST LOUIS, MO 63128
314-843-3449
QUICK, RICHARO T P
9821 COPPER HILL ROAO
ST LOUIS, MO 63124
314-567-5185
OURESHI, ABDUL R IM
10004 KENNERLY ROAD
ST LOUIS, MO 63128
314-843-3110
RACAOIO, SEVERO M FP
P. O. BOX 1
ARNOLO, MO 63010
314-296-5522
RACHLIN, MAXWELL OPH
211 N MERAMEC
ST LOUIS, MO 63105
314-727-4240
RAOER, EDWARO S U
7744 DAVIS OR.
CLAYTON, MO 63105
314-727-7717

RADER, GEO B GS
224 S. WOODS MILL RD.
SUITE 430
CHESTERFIELD, MO 63017
314-576-0060

RADKE, JOHN D CD
3545 LAFAYETTE AVE.
ST LOUIS, MO 63104

RAFFA, M. ALI GS
6651 CHIPPEWA SUITE 218
ST. LOUIS, MO 63109
314-781-1580

RAHMAN, MOUDUDUR OPH
911 S BRENTWOOD
ST LOUIS, MO 63105
314-725-7373

RAICHLE, MARCUS E N
710 JAMAICA CT
ST LOUIS, MO 63122
314-454-3596

RAIKAR, SUDHIR R PD
424 WHITREE LANE
CHESTERFIELD, MO 63017
314-771-6776

RAILEY, MICHAEL T FP
3908 S. GRAND
ST. LOUIS, MO 63104
314-771-0045

RAINEY, ROBT GS
5165 LINDELL BLVD
ST LOUIS, MO 63108
314-428-8100

RALPH, MICHAEL H ORS
4237 REAVIS BARRACKS RD.
ST. LOUIS, MO 63125
314-631-6753

RAMIREZ, SAML G IM
11921 SACKSTON RIDGE DR
ST LOUIS, MO 63141
314-385-9111

RAMIREZ-INAWAT, REBECCA C AN
415 COUNTRY OAK DR.
CHESTERFIELD, MO 63017
314-469-0120

RAMSEY, MARY L P
621 S. NEW BALLAS RD.
SUITE 2008
ST. LOUIS, MO 63141
314-569-6378

RAMSEY, ROBT H IM
11115 NEW HALLS FERRY RD
FLORISSANT, MO 63033
314-921-2060

RANDOLPH, BERNARD C FP
3737 N KINGSHIGHWAY
ST LOUIS, MO 63115
314-383-1746

RANKIN, DIANE CHP
4521 PERSHING ST
ST LOUIS, MO 63108
314-367-4234

RAO, ASWATH N ORS
6500 CHIPPEWA ST
ST LOUIS, MO 63109
314-351-1610

RAO, CARLO GS
11639 W. FLORISSANT
FLORISSANT, MO 63033
314-921-6200

RAO, DEVINENI V R
4511 FOREST PARK BLVD.
ST. LOUIS, MO 63108
314-454-3381

RAO, SHANKAR N FP
10822 ST CHARLES ROCK RD
ST ANN, MO 63074
314-729-0330

RAO, SUMATI PTH
2269 FAIROYAL DR.
ST. LOUIS, MO 63131
314-771-7600

RAPPAZZO, JOSEPH A OPH
4989 BARNES HOSPITAL PLAZA
ST. LOUIS, MO 63110
314-454-2000

RAPPOLD, HENRY O OBG
500 NORTHWEST PLAZA
ST ANN, MO 63074
314-291-0040

RATKIN, GARY A HEM
4910 FOREST PARK #202
ST LOUIS, MO 63108
314-361-7786

RAYBUCK, HARRY E OBG
1245 GRAHAM RD.
FLORISSANT, MO 63031
314-838-8383

REARDON, THOS F IM
300 S. GRAND
ST LOUIS, MO 63103
314-658-5049

RECANO, RICARDO Q FP
4440 NAZARETH HILLS DR
ST LOUIS, MO 63129
314-352-5200

REDDY, DYAPA S PD
430 WHITREE LANE
CHESTERFIELD, MO 63017
314-865-4000

REDDY, M V N
5400 ARSENAL ST
ST LOUIS, MO 63139
314-644-8802

REDDY, RANGA V AN
150 DURKIN DR. #14
SPRINGFIELD, IL 62704
314-771-7600

REDINGTON, JAMES C JR IM
911 S BRENTWOOD
ST LOUIS, MO 63105
314-727-5336

REDLER, BRUCE H OPH
1702 HEATHERDALE DR.
ST. LOUIS, MO 63141
314-567-5957

REED, JONATHAN R OBG
100 N. EUCLID AVE
ST LOUIS, MO 63108
314-367-2200

REED, LESLIE G FP
VA HOSPITAL
170 - J C
ST LOUIS, MO 63125
314-652-4100

REESE, A VICTOR IM
120 E LOCKWOOD AVE
WEBSTER GROVES, MO 63119
314-962-2218

REESE, LESTER T D
522 N NEW BALLAS RD-STE
ST LOUIS, MO 63141

REEVES, GLEN I TR
USAF MED CTR.
HMR 1739
KEESLER AFB, MS 39534
601-377-6291

REH, EDWARD P JR IM
533 COUCH
ST. LOUIS, MO 63122
314-965-5868

REH, THOS E R
6420 CLAYTON RD
ST LOUIS, MO 63117
314-768-8250

REICHERT, M. CECELIA IM
10063 ELISE DR
ST LOUIS, MO 63123
314-752-8349

REICHERT, TIMOTHY J OTO
777 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-872-8338

REIDER, RICHARD A IM
353 RUE RENER
ST LOUIS, MO 63122
314-569-6780

REINECK, JOHN A OM
5410 RHODES
ST LOUIS, MO 63109

REINEKE, FRED W PTH
EHRLING BERGQUIST HOSP.
SGHL/PATHOLOGY
OFFUTT AFB, NE 68113
402-294-7317

REINER, DAN S GS
6625 CLAYTON AVE.
ST. LOUIS, MO 63139
314-771-7600

REINHARD, EDWARD H IM
4989 BARNES HOSPITAL PLAZA
ST LOUIS, MO 63110
314-454-2867

REISLER, DAVID M N
224 SO WOODS MILL RD.
SUITE 550
CHESTERFIELD, MO 63017
314-434-3414

REITER, FEDERICO B DR
11155 DUNN RD
ST LOUIS, MO 63136
314-355-6565

REITMAN, STANLEY IM
158 MAYFAIR PLAZA
FLORISSANT, MO 63033
314-355-5300

REJENT, ANTHONY J PD
10004 KENNERLY RD.
SUITE 195-B
ST LOUIS, MO 63128
314-849-5010

RENDE, RICHARD J ORS
1024 GROVENA
ST. LOUIS, MO 63126
314-961-1598

RENDLEMAN, GEO F JR GS
818 OLIVE ST
#1023
ST LOUIS, MO 63101
314-241-9261

RENDLEMAN, GEO F SR GS
818 OLIVE ST
#1023
ST LOUIS, MO 63101
314-241-9261

RENNARD, MARVIN OBG
2821 N BALLAS RD STE 25
ST LOUIS, MO 63131
314-872-9206

REPP, THEODORE J JR FP
158 MAYFAIR PLAZA
FLORISSANT, MO 63033
314-355-5300

REUTER, LOUIS A DM
40 N. KINGSHIGHWAY
ST LOUIS, MO 63108

REVELS, HARRY OPH
933 HODIAMONT AVE.
ST LOUIS, MO 63112

REYES, CESAR OBG
1851 TAWNY ASH DR
ST. LOUIS, MO 63141
314-432-0049

REYES, JOSE T AN
455 STEEPLE CHASE LANE
ST LOUIS, MO 63131
314-842-5600

REYES, LUIS A GS
9814 MAR-ANN CT
ST LOUIS, MO 63128
314-296-1861

REYES, ROSENDO A OBG
11711 GRAVOIS
ST. LOUIS, MO 63127
314-843-6464

REYNOLDS, FREDERICK C ORS
10094 BRIARWOOD DR.
ST. LOUIS, MO 63124
314-576-7013

REYNOLDS, JAMES A IM
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-878-7220

REYNOLDS, ROBERT B SR P
14377 WOODLAKE DR.
CHESTERFIELD, MO 63017
314-432-2298

RHEE, DONG S AN
P. O. BOX 24507
ST LOUIS, MO 63141
314-872-8221

RHEE, SEOUNG E FP
3551 EVERGREEN LANE
ST LOUIS, MO 63125
314-892-6789

RIBAUDO, J. MICHAEL PS
1101 E. SOUTH SERVICE RD.
WENTZVILLE, MO 63385
314-441-3088

RICHARDS, FRANK O GS
3737 N KINGSHIGHWAY
ST LOUIS, MO 63115
314-383-0133

RICHARDSON, DONALD R IM
SUITE 205 3535 S. JEFFERSON
ST. LOUIS, MO 63118
314-772-5070

RICHARDSON, THOS F P
4949 BARNES HOSPITAL PLAZA
ST LOUIS, MO 63110
314-367-4500

RICHMOND, MICHAEL R IM
1542 WOODLAKE DR.
CHESTERFIELD, MO 63017
314-434-0770

RIDGEWAY, WM G OPH
6651 CHIPPEWA
ST LOUIS, MO 63109
314-645-4940

RIES, DOUGLAS A GS
1511 HAMPTON HALL DR. #12
CHESTERFIELD, MO 63017

RIFKIN, SHALE GS
141 N. MERAMEC AVE.
ST. LOUIS, MO 63105
314-863-8885

RIGGIO, SALVATORE N PD
10349 WATSON RD
ST LOUIS, MO 63127
314-821-0349

RILEY, JOHN J IM
12255 DEPAUL DR
SUITE 345
BRIDGETON, MO 63044
314-739-4166

RINER, RONALD N IM
ST. MARYS HEALTH CTR.
6420 CLAYTON
ST. LOUIS, MO 63117
314-768-8895

RING, EDWARD M TS
621 S. NEW BALLAS SUITE 262
ST LOUIS, MO 63141
314-567-4111

RINGENBERG, BEVERLY J EM
ST. MARY'S HOSP.
6420 CLAYTON RD.
ST. LOUIS, MO 63117
314-644-5612

RITTER, HUBERT A OBG
1035 BELLEVUE
RICHMOND HEIGHT, MO 63117
314-644-6262

RIZZO, ADOLFO E CHP
9216 CLAYTON RD STE 105
ST LOUIS, MO 63124
314-991-2466

ROARK, PAUL M OPH
P.O. BOX 29394
ST LOUIS, MO 63126
314-842-3273

ROBBEN, G. GARRY IM
2821 N. BALLAS RD
ST LOUIS, MO 63131
314-872-3380

ROBBINS, PHILIP L CRS
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-9930

ROBERTS, HAROLD K IM
35 N. CENTRAL AVE.
ST. LOUIS, MO 63105

ROBERTS, JOHN L PD
711 CHEROKEE WOOD RD.
LOUISVILLE, KY 40206

ROBERTS, JOHN P IM
3015 BARRETT STATION RD
KIRKWOOD, MO 63122
314-965-6885

ROBERTSON, FRANK G OBG
456 N. NEW BALLAS RD
ST LOUIS, MO 63141
314-569-2022

ROBINSON, EDITH C CHP
BRIAR OAK
ST LOUIS, MO 63132

ROBLEE, MELVIN A OBG
WESTMINSTER-CANTERBURY HS
1600 WESTBROOK APT 228
RICHMOND, VA 23227

ROCHE, MAURICE B ORS
13900 CLAYTON RD.
MANCHESTER, MO 63011

RODEN, VERNON J PD
456 N NEW BALLAS RD
ST LOUIS, MO 63141
314-567-6868

RODRIGO, BERNARDO R AN
12537 ROYAL MANOR
ST LOUIS, MO 63141
314-644-3000

RODRIGUEZ, UBALDO R GS
2650 TELEGRAPH RD
ST LOUIS, MO 63125
314-892-3502

ROGERS, H. BRYAN FP
819 LOCUST ST
ST LOUIS, MO 63101
314-621-4300

ROHRBAUGH, JAMES R CHN
555 N NEW BALLAS RD.
SUITE 100
ST. LOUIS, MO 63141
314-569-0720

ROLLO, JOHN L PTH
11133 DUNN RD.
ST. LOUIS, MO 63136
314-355-2300

ROOS, ALBERT AN
660 S EUCLID
ST LOUIS, MO 63110
314-454-3133

ROPER, CHAS L COS
4989 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-361-0122

*ROSELL, LOUIS V FP
950 FRANCIS PL
ST LOUIS, MO 63105
314-727-4227

ROSENBAUM, HARRY D OPH
522 N NEW BALLAS RD
ST LOUIS, MO 63141
314-569-1557

ROSENBAUM, HERBERT E N
456 N NEW BALLAS #290
ST LOUIS, MO 63141
314-567-3970

ROSENBERG, DALE H PS
SUITE 2-D 6401 WEST MAIN ST.
BELLEVILLE, IL 62223
618-398-5600

ROSENBERG, DAVID S IM
100 N EUCLID AVE.
SUITE 1104
ST LOUIS, MO 63108
314-367-8811

ROSENTHAL, RANDALL P
2222 SCHUETZ RD
SUITE 212
ST LOUIS, MO 63141
314-997-1722

ROSS, WM J PO
119 CHURCH ST
ST LOUIS, MO 63135
314-521-1600

ROTH, JOHN J IM
522 N NEW BALLAS-STE 24
ST LOUIS, MO 63141
314-872-7332

ROTHWEILER, ROBT J OTO
11745 OLIVE ST RD
ST LOUIS, MO 63141
314-567-3618

ROTSKOFF, KENNETH S OS
911 S BRENTWOOD
ST LOUIS, MO 63105
314-863-8050

ROULHAC, GEO E NS
P. O. BOX 386
SEA ISLAND, GA 31561

ROUSE, ERNEST T IM
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63117
314-721-0666

ROUSE, ERNEST T III IM
1034 S BRENTWOOD
ST LOUIS, MO 63117
314-721-0666

ROUSH, GEO OM
800 N LINDBERGH
ST LOUIS, MO 63166
314-694-8800

ROY, JOS A GS
12255 DEPAUL DR
BRIDGETON, MO 63044
314-738-7773

ROY, TAPANKUMAR S TR
DEPT OF RADIATION ONC
1325 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-773-1974

ROYCE, ROBT K U
766 HIGH HAMPTON RD
ST LOUIS, MO 63124
314-367-1820

ROYSTON, GRANDISON D OBG
RT #4 BOX 330H
HOPE, AR 71801

RUBENSTEIN, MELVIN P
818 HANAMDOR COURT
ST LOUIS, MO 63122
314-965-7785

RUBIN, ROBT IM
11585 W. FLORISSANT AVE.
FLORISSANT, MO 63033
314-837-1515

RUEHL, ALBERT F PS
3555 SUNSET OFFICE DR.
ST LOUIS, MO 63127
314-821-3900

RUHLING, RUDY GP
5203 CHIPPEWA
ST LOUIS, MO 63109
314-481-1562

RUMELT, MICHAEL OPH
BALLAS-PARKWAY MEDICAL
456 N NEW BALLAS RD-
CREVE COEUR, MO 63141
314-432-2156

RUNDE, CHARLES W FP
1201 HOLGATE
BALLWIN, MO 63011
314-569-6010

RUSAN, THOS E OBG
7911 BENNETT AVE.
ST LOUIS, MO 63117

RUSSELL, HERMAN E ORS
4451 NATURAL BRIDGE
ST LOUIS, MO 63115
314-389-7150

RUWITCH, JOSEPH F JR IM
4989 BARNES HOSPITAL PLAZA
ST LOUIS, MO 63110
314-454-3603

RYALL, JO-ELLYN M P
SUITE 1160
1034 S. BRENTWOOD BLVD.
ST. LOUIS, MO 63117
314-721-8242

RYAN, ROBERT E JR OTO
621 S. NEW BALLAS RD
ST. LOUIS, MO 63141
314-872-8778

RYAN, ROBT E SR OTO
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-872-8778

RYAN, THOMAS E IM
11155 DUNN RD.
ST. LOUIS, MO 63136
314-355-5597

SABET, ABDOLLAH A P
901 CLAYTON RD.
BALLWIN, MO 63011
314-227-7300

SACHAR, LEO A GS
230 S. BRENTWOOD BLVD.
ST LOUIS, MO 63105
314-361-3676

SAFDAR, SHABBIR H ONC
4960 AUDUBON AVE.
ST LOUIS, MO 63110
314-454-5000

SAGHIR, MARCEL T P
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63117
314-862-4448

SAHA, NITAI C U
WEST COUNTY UROLOGY, INC.
12166 BIG BEND RD #203
ST. LOUIS, MO 63122
314-822-1414

SAHA, SUDHA R OBG
1040 N MASON RD.
ST. LOUIS, MO 63141
314-434-6020

SAITZ, ROBERT M IM
936 LORDSHILL
ST. LOUIS, MO 63119
314-961-9366

SAKMAR, DOUGLAS A PD
10004 KENNERLY RD
ST. LOUIS, MO 63128
314-849-5010

SALANGA, PERCIVAL B FP
2650 TELEGRAPH RD.
LEMAY, MO 63125
314-892-3501

SALE, LLEWELLYN JR IM
4910 FOREST PARK
ST LOUIS, MO 63108
314-367-2757

SALINAS, MARIO OBG
10004 KENNERLY RD.
ST LOUIS, MO 63128
314-849-3500

SALMON, MICKEY L OPH
3916 RITZ CTR
ST LOUIS, MO 63125
314-892-8211

SALVADOR, ANTONIO PTH
615 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-6120

SAMET, JOHN M IM
527 WARREN AVE.
UNIVERSITY CITY, MO 63130
314-727-2575

SAMMONS, HARRY C AN
RT. 1 BOX 188A
HERMANN, MO 65041
314-822-1271

SAMSON, BARRY L ORS
522 N NEW BALLAS RD.
ST. LOUIS, MO 63141
314-432-2323

SAMUDRALA, RAMULU OPH
12135 ROYAL VALLEY
CREVE COEUR, MO 63141
314-381-2626

SAMUELS, LAWRENCE E D
224 S. WOODS MILL ROAD
SUITE 320
CHESTERFIELD, MO 63017
314-576-7336

SANCHEZ, ABELARDO B N
4783 WICKERWOOD DR
ST LOUIS, MO 63129
314-771-8231

SANDERS, THEODORE E OPH
1034 S. BRENTWOOD
ST LOUIS, MO 63117
314-863-8866

SANDZA, JOSEPH G TS
216 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-7175

SANTANELLO, WILLIAM M FP
2525 N BROADWAY
ST LOUIS, MO 63102
314-241-4455

SANTILLANO, ANTONIO B PTH
2204 WELSCH INDUSTRIAL CT.
ST LOUIS, MO 63141
314-432-1850

SARGENT, RICHARD A AN
621 S. NEW BALLAS RD.
ROOM 662
ST. LOUIS, MO 63141
314-872-8221

SASSER, WM F TS
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-1841

SATA, LINDBERGH S P
1221 S. GRAND
ST. LOUIS, MO 63104
314-771-7600

SATAYAYIBOON, SATAYA PD
1402 S GRAND BLVD.
ST. LOUIS, MO 63104
314-577-5600

SATO, GEO PD
777 S. NEW BALLAS RD. 114E
ST LOUIS, MO 63141
314-432-3338

SATO, RICHARD W PD
777 SO. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-432-3338

SAUER, DONALD C GS
4422 WESTMINSTER
ST LOUIS, MO 63108
314-361-1142

SAUVAGE, JACQUES P OBG
4911 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-454-2340

SAVCI, DOGAN H R
11712 WESTHAM
ST LOUIS, MO 63131
314-878-4680

---

* Doctor of Osteopathy

SAWYER, JAMES OBG
111 CHURCH ST
FERGUSON, MO 63135
314-522-3633
SCADUTO, ANDREW J FP
12166 OLD BIG BEND RD. #205
ST. LOUIS, MO 63122
314-965-6544
SCARATO, GARRY R FP
240 SAN ANGELO
CHESTERFIELD, MO 63017
314-239-7711
SCHAAN, ROBT C PO
6651 CHIPPEWA STE 316
ST LOUIS, MO 63109
314-644-3244
SCHAEFER, GLENNON S GS
1333 TOPPING ROAD
ST LOUIS, MO 63131
314-872-3188
SCHAERER, JACQUES P NS
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5078
SCHAPER, ERNEST H FP
7200 MANCHESTER AVE
ST LOUIS, MO 63117
314-645-7744
SCHECHTER, SAML E IM
8000 BONHOMME ST
CLAYTON, MO 63105
314-725-8220
SCHEELE, PAUL M IM
325 N KIRKWOOD ST
KIRKWOOD, MO 63122
314-965-7201
SCHEER, GEORGE E ORS
1034 SOUTH BRENTWOOD
ST LOUIS, MO 63105
314-721-7325
SCHEFF, HAROLD IM
2821 N. BALLAS RD. #145
ST LOUIS, MO 63131
314-432-1311
SCHEFF, ROBERT J IM
2821 N. BALLAS RD.
ST. LOUIS, MO 63131
314-432-1311
SCHEIBE, ROBT G U
777 S. NEW BALLAS RD
ST LOUIS, MO 63141
314-567-3235
SCHEIBLE, ROBERT F OR
2821 N BALLAS RD
ST LOUIS, MO 63131
314-432-5284
SCHENGBER, JOHN S P
12042 CREEKHAVEN DR
ST LOUIS, MO 63131
314-567-5185
SCHIERMAN, WM O IM
911 S BRENTWOOD BLVD
CLAYTON, MO 63105
314-862-4141
SCHLANSKY, SEYMOUR M PO
677 N NEW BALLAS RD
ST LOUIS, MO 63141
314-432-6544
SCHMIDT, DENNIS A R
6150 OAKLAND
ST LOUIS, MO 63139
314-645-8510
SCHMIDT, EDWIN H P
6651 CHIPPEWA ST
ST LOUIS, MO 63109
314-644-2395
SCHMIDT, EDWIN H III IM
1035 BELLEVUE AVE
ST LOUIS, MO 63117
314-645-3400
SCHMIDT, STEPHEN A IM
6125 POINTVIEW LANE
ST. LOUIS, MO 63123
314-768-8000
SCHMIEMEIER, ROY H GP
7351 WINDCREST DR.
HOUSE SPRINGS, MO 63051
SCHNEIDER, ROBERT J IM
522 N. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-567-1902
SCHNEIDER, SALLY L AN
621 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-872-8221
SCHNIDMAN, JACQUELYN C PD
4210 BAYLESS
ST. LOUIS, MO 63123
314-638-7330
SCHOECK, ALBERT F AN
44 MUIR FIELD
CREVE COEUR, MO 63141
314-872-8221
SCHOEDINGER, GEORGE R III ORS
12615 OLD TESSON ROAD
ST LOUIS, MO 63128
314-849-0311

SCHOENECKER, PERRY L ORS
4989 BARNES HOSPITAL PL
ST LOUIS, MO 63110
314-454-2770
SCHOENTAG, JOHN S O
456 N NEW BALLAS RD
SUITE #317
CREVE COEUR, MO 63141
314-567-3180
SCHONFELD, GUSTAV IM
507 S EUCLID
ST LOUIS, MO 63110
314-454-3162
SCHOPP, ALVIN C ORS
12345 GAILLARD DR.
ST LOUIS, MO 63141
SCHRANCK, CHAS R SR AN
28 BERKSHIRE
ST LOUIS, MO 63117
314-644-3000
SCHREIBER, DAVID J N
11155 DUNN RD
ST LOUIS, MO 63136
314-355-3355
SCHRICK, RICHARD E OTO
135 W. ADAMS
KIRKWOOD, MO 63122
314-966-5252
*SCHROEDER, WALTER A JR OTO
1325 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-771-7600
SCHUCHARDT, ROBERT L FP
645 S. NEW BALLAS
ST. LOUIS, MO 63141
314-997-3728
SCHUESSLER, WOLFGANG P IM
6744 CLAYTON RD
ST LOUIS, MO 63117
314-644-1901
SCHULMAN, JEFFREY I POA
522 N NEW BALLAS RD.
SUITE 122
ST LOUIS, MO 63141
314-569-1881
SCHULTZ, EARL R N
3009 NORTH BALLAS RD.
SUITE 209
ST LOUIS, MO 63131
314-567-3663
SCHULTZ, IRWIN IM
26 ARUNDEL PL
ST LOUIS, MO 63105
314-355-5300
SCHULZ, RICHARD R
6150 OAKLAND
ST LOUIS, MO 63139
314-645-9003
SCHWARTZ, HENRY G NS
4901 BARNES HOSPITAL PLAZA
ST LOUIS, MO 63110
314-454-3274
SCHWARTZ, HOWARD IM
601 S. BRENTWOOD
ST. LOUIS, MO 63105
314-727-6300
SCHWARTZ, MELVIN M OBG
2821 N BALLAS
ST LOUIS, MO 63131
314-872-9206
SCHWARTZMAN, BERNARD PD
1512 BEDFORD FORGE DR
CHESTERFIELD, MO 63017
SCHWARZ, EDWARD H PO
621 S. NEW BALLAS RD.
SUITE 2003
ST. LOUIS, MO 63141
314-569-6150
SCHWARZ, LUIS H P
1035 BELLEVUE AVE
ST LOUIS, MO 63117
314-647-0610
SCHWEISS, JOHN F AN
1414 WEST WIND
ST LOUIS, MO 63131
314-771-7600
SCHWEITZER, JAMES M IM
3009 NEW BALLAS
ST. LOUIS, MO 63131
314-432-1111
SCIORTINO, JOHN S GS
3654 S GRAND BLVD-STE 2
ST LOUIS, MO 63118
314-776-0110
SCOPELITE, JOS A GP
8 STEEPLECHASE LANE
ST LOUIS, MO 63131
SCOTT, ELWIN P GP
3325 S GRAND
ST LOUIS, MO 63118
314-771-0064
SCOTT, HILLARD L FP
7520 NATURAL BRIDGE RD.
ST. LOUIS, MO 63121
314-382-8899
SCOTT, HORACE W R
2639 MIAMI
ST. LOUIS, MO 63118
314-727-0012

SCRUGGS, KAREN L PO
801 S. BRENTWOOD BLVD.
CLAYTON, MO 63105
314-726-7100
SEABAUGH, OTTIS D GP
1512 BEDFORD FORGE DR
CHESTERFIELD, MO 63017
SEDGWICK, WILLIAM G ORS
1034 S. BRENTWOOD
ST. LOUIS, MO 63117
314-721-7325
SEDLIS, MELISSA M PD
4492 LACLEDE PLACE
ST. LOUIS, MO 63108
314-849-2400
SEED, JOHN P
1035 BELLEVUE
SUITE 313
ST LOUIS, MO 63117
314-647-9100
SEELEY, JAMES J GS
10004 KENNERLY RD.
SUITE 355
ST LOUIS, MO 63128
314-849-3050
SEIB, GEO A FP
2323 LAFAYETTE AVE
ST LOUIS, MO 63104
314-776-2323
SELVADURAI, PAUL N IMD
2838 S. GRAND BLVD.
ST. LOUIS, MO 63118
314-771-0677
SENTURIA, HYMAN R R
8 LITTLE LANE
ST LOUIS, MO 63124
314-441-6730
SERTL, GEORGE O ORS
3009 N. BALLAS ROAD
P.O. BOX 31097
ST LOUIS, MO 63131
314-569-0612
SERTL, JAMES F IM
950 FRANCIS PL
ST LOUIS, MO 63105
314-863-7766
SERTL, JOHN D FP
5203 CHIPPEWA
SUITE 307
ST LOUIS, MO 63109
314-481-5591
SESSIONS, DONALD G OTO
1960 GRASSY RIDGE RD
KIRKWOOD, MO 63122
314-454-2444
SETZEN, MICHAEL OTO
333 E. SHORE RD.
MANHASSET, NY 11030
516-482-8778
SEXTON, DANL L IM
911 S BRENTWOOD BLVD
CLAYTON, MO 63105
314-862-5252
SEXTON, ELMER E U
2537 TOWN & COUNTRY LAN
ST LOUIS, MO 63131
SHAH, ANWAR OPH
1031 BELLEVUE AVE
ST LOUIS, MO 63117
314-644-6800
SHAH, BHARAT K GS
1652 CENTRAL AVE
EAST ST. LOUIS, IL 62207
618-874-3551
SHAH, JITENDRA P U
10004 KENNERLY RD
ST LOUIS, MO 63128
314-849-2735
SHAH, MODASER P
5400 ARSENAL
ST. LOUIS, MO 63139
314-644-8000
SHAH, NAHEED F OPH
14356 LAKE TAHOE DR.
CHESTERFIELD, MO 63017
SHAHAN, PHILIP T OPH
211 N MERAMEC
ST LOUIS, MO 63105
314-726-0053
SHAIKUN, GERALD L R
14025 CROSSTRAILS
CHESTERFIELD, MO 63017
314-441-6730
SHAMSI, ZIA U IM
7520 NATURAL BRIDGE
ST. LOUIS, MO 63121
314-389-3333
SHANAHAN, PHILIP J GP
1 CHILTON LN
CREVE COEUR, MO 63141
314-567-5407
SHANER, THOS P OBG
2821 NORTH BALLAS
ST LOUIS, MO 63131
314-872-7400
SHANK, ROBT E IM
4566 SCOTT AVE
ST LOUIS, MO 63110
314-454-2467

---

* Doctor of Osteopathy.

SHAPIRO, HERBERT N GS
6651 CHIPPEWA ST
ST LOUIS, MO 63109
314-781-4311
SHAPLEIGH, JDHN B II IM
1034 S BRENTWDDD BLVD
ST LOUIS, MD 63117
314-862-3730
SHAPLIN, ALFRED D DR
12668 WESTPDRT DR.
ST. LOUIS, MO 63141
727-0012
SHARP, AUSTIN R PD
901 CLAYTDN RD
BALLWIN, MO 63011
314-391-6300
SHATZ, BURTON A IM
10287 CLAYTDN RD
ST LOUIS, MO 63124
314-997-3212
SHATZ, RICHARO N PS
456 N. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-3214
SHAW, EOWARO J GS
3654 SOUTH GRANO BLVD
ST LOUIS, MO 63118
314-771-7770
SHAW, MICHAEL D PD
100 CHASE PARK DR.
BELLEVILLE, IL 62223
SHAW, RICHARD C TS
216 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-7175
SHEEHAN, PAUL J GS
1325 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-771-7600
SHEFFNER, PAUL W P
763 S. NEW BALLAS RO. #350
ST. LOUIS, MO 63141
314-427-2424
SHELTON, EARL W IM
4451 NATURAL BRIDGE AVE
ST LOUIS, MO 63115
314-385-8752
SHEN, HANG C R
14907 GREENLEAF VALLEY OR.
CHESTERFIELD, MO 63017
314-727-6300
SHEN, JEROME T PD
1695 S BRENTWOOO BLVD
ST LOUIS, MO 63144
314-962-8122
SHEN, VINCENT S IM
BETHESDA NAVAL HOSPITAL
NATIONAL CAPITOL REGION
BETHESOA, MO 20814
SHERIDAN, JOHN J ORS
SUITE #200
1031 BELLEVUE AVE.
ST LOUIS, MO 63117
314-647-8562
SHERMAN, LAURENCE A PTH
4050 LINDELL BLVD.
ST. LOUIS, MO 63108
314-658-2103
SHERMAN, WARREN G PD
13131 TESSON FERRY RO.
ST LOUIS, MO 63128
314-843-0500
*SHERROD, GLENN M N
12255 DEPAUL DR.
SUITE 770
BRIDGETON, MO 63044
314-291-2446
SHERWIN, CHAS S GS
3971 FLORA PL
ST LOUIS, MO 63110
314-725-4747
SHIEBER, WM GS
216 S KINGSHIGHWAY BLVO
ST LOUIS, MO 63110
314-454-7181
SHIELOS, JOHN B R
1325 S. GRANO BLVD.
ST LOUIS, MO 63104
314-771-7600
SHINE, THOMAS E GS
SUITE 303 11155 DUNN RO.
ST. LOUIS, MO 63136
314-741-3400
SHIVELY, RAYMONO E PS
3660 VISTA
ST. LOUIS, MO 63110
314-771-7600
SHIVELY, ROBERT A ORS
4989 BARNES HOSPITAL PLAZA
ST. LOUIS, MO 63110
314-454-2724
SHOBE, FRANK O P
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63117
314-721-8242
SHOCKLEY, KAREN D GP
1823 HICKORY
ST. LOUIS, MO 63104
314-241-6067

SHDRE, BERNARD L IM
7316 PRINCETON AVE.
UNIVERSITY CITY, MO 63130
314-367-3113
SHORT, CHARLES D PTH
3015 N. BALLAS RD.
ST. LOUIS, MD 63131
314-569-5207
SHUFF, PAUL D DTO
1035 BELLVUE STE 417
ST LOUIS, MO 63117
314-781-6212
SHUMAN, JOS S P
12255 DEPAUL DR.
BRIDGETON, MD 63044
314-739-5557
SHYKEN, HERMAN R
141 N MERAMEC
CLAYTDN, MO 63105
314-721-0242
SICARO, GREGORIO A GS
909 WOHL CLINIC
4960 AUOUBON
ST. LOUIS, MO 63110
314-454-3081
SIDOIQUI, FARZANNA O P
1550 A ST CLAIR AVE
GRANITE CITY, IL 62040
618-876-3600
SIDDIQUI, JAWEO H IM
11115 NEW HALLS FERRY
#301
FLORISSANT, MO 63033
314-829-2770
SIEGEL, BARRY A NM
510 S. KINGSHIGHWAY BLVO.
ST. LOUIS, MO 63110
314-454-5180
SIEGFRIEO, BARRY A CLP
12858 MARINERS POINT
ST. LOUIS, MO 63141
314-454-7080
SIEMERS, GEO E OBG
12660 LAMPLIGHTER SQ.
ST LOUIS, MO 63128
314-843-1900
SIESENER, HERBERT H IM
206 NORTHLAND MED BLDG
ST LOUIS, MO 63136
314-383-0400
SIGMUNO, CHAS A OPH
12255 OEPAUL RO
SUITE 109
BRIDGETON, MO 63044
314-739-9293
SIGMUNO, CHAS J IM
325 FAWN MEADOWS
BALLWIN, MO 63011
314-391-9120
SIGNORELLI, ANOREW J US
12634 OLIVE ST RO
ST LOUIS, MO 63141
314-434-0600
SILBER, SHERMAN J U
456 N. NEW BALLAS RO
ST LOUIS, MO 63141
SILBERSTEIN, MICHAEL J PD
1465 S. GRANO BLVD.
ST. LOUIS, MO 63104
314-577-5652
SILVER, BERND OPH
950 FRANCIS PLACE
ST LOUIS, MO 63105
314-727-5510
SILVERBERG, CHAS IM
10004 KENNERLY RD
SUITE 315
ST LOUIS, MO 63128
314-843-7333
SILVERMINTZ, SAUL D IM
20 GRANADA WAY
ST LOUIS, MO 63124
314-567-4990
SIMON, DAVIO L PD
7809 GANNON
ST LOUIS, MO 63130
314-726-5477
SIMON, NATHAN M P
32 CRESTWOOO
ST LOUIS, MO 63105
314-361-7817
SIMONS, PAUL S PD
4570 AUOUBON
ST LOUIS, MO 63110
314-658-5243
SIMOWITZ, FREDRIC M N
2850 W. CLAY ST.
ST. CHARLES, MO 63301
314-946-7838
SIMPSON, JOSEPH R
4511 FOREST PARK
ST. LOUIS, MO 63108
314-454-3381
SIMRIL, WAYNE A DR
21 SOMERSET OOWNS
ST LOUIS, MO 63124
SIMS, WM A JR AN
6 GREENBRIAR LANE
ST LOUIS, MO 63124
314-645-8510

SINGH, GURCHARAN J IM
6420 CLAYTON
ST. LOUIS, MO 63117
314-768-8000
SINGHAL, GOKUL C IM
9350 GRAVOIS
ST LOUIS, MO 63123
314-638-9300
SISK, CLARK D
121 N. BRENTWOOD BLVD.
ST. LDUIS, MO 63105
314-725-7007
SISK, JAMES C D
121 N BRENTWOOD BLVD
CLAYTON, MO 63105
314-725-7007
SISLEN, DONALD R IM
621 S NEW BALLAS ROAD
ST LOUIS, MO 63141
314-432-3456
SISSON, RICHARO G GS
4910 FOREST PARK BLVO.
#206
ST LOUIS, MO 63108
314-361-3676
SKIMMING, W. LEE ORS
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-872-8015
SKINNER, JOHN S IM
35 N CENTRAL
ST LOUIS, MO 63105
314-726-1166
SLAVIN, RAYMONO G IM
1402 SOUTH GRAND
ST LOUIS, MO 63104
314-664-9800
SLETTEN, IVAN W P
11155 DUNN RD
ST LOUIS, MO 63136
314-355-1244
SLIOM, CYRIL M AN
DEPT ANESTHESIOLOGY
JEWISH HOSPITAL
ST LOUIS, MO 63178
314-454-7954
SLOCUM, STEPHEN G OPH
1034 S. BRENTWOOD
SUITE 694
ST. LOUIS, MO 63117
314-721-8250
SMILEY, WM L OBG
2715 UNION BLVO
ST LOUIS, MO 63113
314-381-2741
SMIT, HERBERT M OTO
8724 W KINGBURY
ST LOUIS, MO 63124
SMITH, BENJ F OBG
417 OIETRICH RO.
MANCHESTER, MO 63011
314-727-3439
SMITH, OERMOTT A P
1221 S GRAND BLVD
ST LOUIS, MO 63104
314-771-7600
SMITH, EMILY L DR
510 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-3063
SMITH, GARLAND F ORS
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-872-8015
SMITH, HERBERT P GP
2265 FLORIDA MANGO RD
WEST PALM BEACH, FL 33406
SMITH, HUGH R OBG
3555 SUNSET OFFICE DR.
ST LOUIS, MO 63127
314-821-3900
SMITH, JAMES B P
35 NORTH CENTRAL
ST LOUIS, MO 63105
314-862-6007
SMITH, KATHLEEN P
1420 GRATTAN ST
ST LOUIS, MO 63104
314-241-7600
SMITH, KENNETH R JR NS
1325 S GRAND BLVD
ST LOUIS, MO 63104
314-771-7600
SMITH, KEVIN B FP
14382 WOODLAKE DR
CHESTERFIELD, MO 63017
314-434-3333
SMITH, MORTON E OPH
660 S EUCLIO ST
ST LOUIS, MO 63110
314-454-2150
SMITH, NORRIS W OBG
3654 S GRAND BLVO
ST LOUIS, MO 63118
314-776-6600
SMITH, PETER G OTO
517 S. EUCLID AVE.
ST. LOUIS, MO 63110
314-454-2444

---

* Doctor of Osteopathy.

SMITH, ROBERT W PO
842 TUSCUMBIA DR.
BIRMINGHAM, AL 35214
314-577-5600

SMITH, ROBT W R
10010 KENNERLY RD
ST LOUIS, MO 63128
314-842-3560

SMITH, SIONEY E IM
2715 UNION ST
ST LOUIS, MO 63113
314-261-4844

SOBKY, GEORGE H OR
2305 W. GEORGIA
LOUISIANA, MO 63353
314-745-5533

SOHN, RICHARD N
4989 BARNES HOSPITAL PL
ST LOUIS, MO 63110
314-454-2958

SOLANKI, NARESHKUMAR J PO
12303 DEPAUL DRIVE
BRIDGETON, MO 63044
314-344-6000

SOLLEY, ROBT F IM
236 WEST CHANNEL RD.
SANTA MONICA, CA 90402

SOLOMON, FELIX G AN
11326 MOSLEY LANE
ST LOUIS, MO 63141
314-569-1147

SOMMER, CONRAO S P
200 S. HANLEY RD.
SUITE 700
ST LOUIS, MO 63105
314-863-0871

SOMMER, ROSS B IM
1034 S BRENTWOOD ST
ST LOUIS, MO 63117
314-721-0666

SOORYA, OUSHYANT T PO
14329 AITKEN HILL CT.
CHESTERFIELD, MO 63017

SOORYA, NARENOIR T P
6651 CHIPPEWA
ST LOUIS, MO 63109
314-644-2395

SOPUCH, JOHN A OBG
500 NORTHWEST PLAZA
ST ANN, MO 63074
314-739-8500

SOSNA, JACOB P IM
6651 CHIPPEWA
ST LOUIS, MO 63109
314-644-1709

SOTO, ALBERT A P
522 N NEW BALLAS RD
ST LOUIS, MO 63141
314-567-1958

SOULE, SAML O OBG
911 S BRENTWOOD
ST LOUIS, MO 63105
314-721-8852

SPALOING, DONALO G R
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-6032

SPECTOR, GENE W R
210 S. KINGSHIGHWAY
ST. LOUIS, MO 63110
314-441-6730

SPECTOR, GERSHON OTO
4911 BARNES HOSPITAL PLAZA
ST LOUIS, MO 63110
314-454-2444

SPENCER, ANOREW GS
533 DE BALIVIERE AVE
ST LOUIS, MO 63112

SPENNER, CRAIG W O
325 N. KIRKWOOD RD.
ST. LOUIS, MO 63122
314-966-2010

SPENO, ANGELO A OM
1001 N HIGHWAY DRIVE
FENTON, MO 63026
314-343-3249

SPEWAK, ROBERT O PO
6651 CHIPPEWA
ST. LOUIS, MO 63109
314-644-2727

SPIVACK, ALAN R IM
10511 OLD OLIVE ST RD
ST LOUIS, MO 63141

SPOENEMAN, MARLIN C GP
4421 NE 25TH AVE
LIGHTHOUSE POIN, FL 33064

SPRAUL, JAMES H OM
800 NO LINDBERGH
ST LOUIS, MO 63166
314-694-8807

SOUITIERI, ALPHONSE J IM
9616 LACKLAND AVE
ST LOUIS, MO 63114
314-427-1855

SRISURO, CHOTCHAI OBG
533 COUCH AVE.
ST. LOUIS, MO 63122
314-821-9144

SRIVISAL, SOMNUK R
6710 CLAYTON RD.
ST. LOUIS, MO 63117
314-781-1103

ST JOHN, THOMAS C OM
10007 CHARPIN WAY
APT 2
ST LOUIS, MO 63128

STAFFORO, WALTER R OPH
141 N MERAMEC AVE
CLAYTON, MO 63105
314-725-1067

*STAHLY, RANOALL L N
12255 DEPAUL DR.
BRIDGETON, MO 63044
314-291-2446

STANFIELD, NEO M AN
8048 BLACKBERRY AVE
UNIVERSITY CITY, MO 63130

STANLEY, JULIA M PO
7352 BALSON
ST. LOUIS, MO 63130

STARKE, KEITH M IM
625 WATERFORD RIDGE CT.
MANCHESTER, MO 63011
314-567-6000

STARKLOFF, GENE B GS
5266 WESTMINSTER
ST LOUIS, MO 63108

STARKLOFF, MAX IM
6304 S GRAND AVE
ST LOUIS, MO 63111

STAVRIOES, PETE O ORS
6500 CHIPPEWA
ST. LOUIS, MO 63109
314-352-5400

STEELE, JACK T FP
3466 BRIDGELAND
SUITE 110
BRIDGETON, MO 63044
314-291-6660

STEGEMAN, DALE M FP
649 S. NEW BALLAS
ST. LOUIS, MO 63141
314-569-6000

STEIN, HARRY J FP
2304 HORO AVE.
ST. LOUIS, MO 63136
314-383-1100

STEIN, PAUL M IM
777 SOUTH NEW BALLAS RD
ST LOUIS, MO 63141
314-872-8740

STEINBERG, FRANZ U PM
216 SOUTH KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-7756

STEINER, ALEXANOER J IM
141 N MERAMEC AVE STE 2
CLAYTON, MO 63105
314-725-2332

STEPHEN, C. RONALO AN
13 BALCON ESTATES
ST LOUIS, MO 63141
314-434-1500

STEPHENS, WM A ORS
1959 KEHRS MILL RD.
CHESTERFIELD, MO 63017

STERGEN, NICK E OBG
RR1, BOX 132 N
AUGUSTA, MO 63332
314-228-4745

STERKEL, RICHARO L IM
1035 BELLEVUE
ST LOUIS, MO 63117
314-644-6161

STEWART, FRANCES H OBG
7161 DELMAR BLVD
ST LOUIS, MO 63130

STEWART, L PAUL OPH
1155 CRESTED VIEW DR.
ST. LOUIS, MO 63141
314-567-6296

STICKLE, ARTHUR W OPH
135 W ADAMS
KIRKWOOD, MO 63122
314-821-0500

STICKLEY, LOUIS P CO
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-6168

STIEHL, JAMES B ORS
12255 DEPAUL DR.
BRIDGETON, MO 63044
314-739-7654

STILLINGS, WAYNE P
1034 S BRENTWOOD
SUITE 1160
ST LOUIS, MO 63117
314-721-8242

STINOEL, CHAS E OM
341 VIOLET LANE
ST LOUIS, MO 63119

STOHR, PAUL E NS
1035 BELLEVUE AVE
ST LOUIS, MO 63117
314-644-6665

STOKES, JAMES M GS
224 S. WOODS MILL RD.
SUITE 340
CHESTERFIELD, MO 63017
314-878-2170

STOKES, PATRICIA A R
12628 WOODY GROVE
ST. LOUIS, MO 63141
314-771-7600

STOLIAR, BRUCE U
11115 NEW HALLS FERRY
FLORISSANT, MO 63033
314-838-8244

STONEMAN, WILLIAM III GS
5217 WESTMINSTER PL
ST LOUIS, MO 63108
314-664-9050

STRAOER, RICHARO P AN
621 SOUTH NEW BALLAS RD
ST LOUIS, MO 63141
314-872-8221

STRATMANN, HENRY G IM
12389 ROSS RIDGE CT.
ST. LOUIS, MO 63141

STRECKER, WILLIAM B ORS
4960 AUDUBON AVE.
RM 115 WOHL
ST. LOUIS, MO 63110
314-454-2770

STRELZOW, VICTOR V OTO
3660 VISTA AVE.
ST. LOUIS, MO 63110

STRICKLANO, JAMES C ORS
777 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-991-5858

STROBACH, KURT F OBG
3394 MC KELVEY ROAD
BRIDGETON, MO 63044
314-739-6550

STRONSKY, OAVIO ORS
533 COUCH #220
ST LOUIS, MO 63122

STROUO, MALCOLM H OTO
517 SOUTH EUCLID
ST LOUIS, MO 63110
314-454-2708

STRYKER, GAROLO V OS
#1 GULF MANOR DR
VENICE, FL 33595

STRYKER, WM I P
12 OAKLEIGH LANE
ST LOUIS, MO 63124
314-725-0060

STUEBNER, ROLANO W GS
11964 ADORNO PLACE
SAN DIEGO, CA 92128

STYBLO, TONCREO M GS
5518 GENESTA WALK
ST. LOUIS, MO 63123
314-771-7600

SUBA, ANTONIO R GS
141 N MERAMEC AVE
ST LOUIS, MO 63105
314-727-1104

SUBBAIAH, KOSURI V AN
2639 MIAMI ST.
ST. LOUIS, MO 63118
314-772-1456

SUOEKUM, ANN PO
2821 N BALLAS
ST LOUIS, MO 63131

SUOEKUM, JOSEPH M ORS
621 S. NEW BALLAS RD.
ST LOUIS, MO 63141
314-569-1212

SUOHOLT, ALFRED F OBG
500 NORTHWEST PLAZA STE
ST ANN, MO 63074
314-291-2614

SULLIVAN, CLEMENT J IM
6744 CLAYTON RD RM 311
ST LOUIS, MO 63117
314-644-0151

SULLIVAN, WM K GPM
660 S. EUCLID AVE.
ST LOUIS, MO 63110
314-652-4100

SULLIVAN, WM W IM
12166 BIG BEND BLVD
KIRKWOOD, MO 63122
314-821-9150

SUMER, CENGIZ M P
220 RUNNYMEDE DR
ST LOUIS, MO 63141
314-291-6135

SUMER, EMEL A CHP
220 RUNNYMEDE DR
ST LOUIS, MO 63141
314-291-6135

SUMMERS, JOHN B PO
10349 WATSON RD
ST LOUIS, MO 63127
314-965-4050

SUMMERS, THOS F GP
120 S. FAIR
OLNEY, IL 62450
618-395-4529

---

* Doctor of Osteopathy.

SUNDERMAN, RAYMOND C IM
1600 MONTICELLO DR
ST LOUIS, MO 63138

SUNSHINE, HERBERT U
707 WAYFIELD
ST LOUIS, MO 63132
314-567-6071

SUSMAN, NOAH R
8430 OLD BONHOMME
ST. LOUIS, MO 63132
314-441-6730

SUTTER, RICHARD A OM
819 LOCUST ST
ST LOUIS, MO 63101
314-621-4300

SUWANNASRI, RUENRUDEE IM
138 N. MERAMEC AVE.
CLAYTON, MO 63105
314-721-7227

SVANCAREK, WM P EM
1650 WOLFTRAIL RD.
MANCHESTER, MO 63011
314-355-2300

SWAYKUS, BERNARD T IM
3394 MC KELVEY RD
BRIDGETON, MO 63044
314-291-3410

SWEET, HERBERT C PUD
3 ST JAMES COURT
WEBSTER GROVES, MO 63119

SWOPE, JOS A IM
10004 KENNERLY
ST LOUIS, MO 63128
314-842-3200

SYLVANOVICH, W. RICHARD GE
ST JOHNS MERCY MED CTR
615 SOUTH NEW BALLAS
ST LOUIS, MO 63141
314-569-6350

SZOKO, EDWARD R
151 SHELBURNE CT.
ST. CHARLES, MO 63301
314-946-6657

TACA, ARTURO M U
10430 PAGE BLVD.
ST. LOUIS, MO 63132
314-621-3378

TAILOR, CHANDRAKANT C R
11155 DUNN RD.
ST. LOUIS, MO 63136
314-355-5032

TALABAN, RAYMUNDO O GS
703 W MAIN
FREDERICKTOWN, MO 63645
314-783-5553

TANAKA, GEO M IM
59 GRASSO PLAZA
ST LOUIS, MO 63123
314-631-0500

TANGSHEWINSIRIKUL, P R
1515 LAFAYETTE
ST. LOUIS, MO 63104
314-622-5172

TASHMA, SIGMUND S US
904 OALKEITH LANE
ST LOUIS, MO 63132

TATINENY, ASHALATHA R IM
3255 JANUARY APT. 1
ST. LOUIS, MO 63139
314-481-9099

TATKOW, ROBERT W ORS
456 N NEW BALLAS
SUITE 369
ST LOUIS, MO 63141
314-569-1830

TAUSSIG, BARRETT L IM
513 PAMELA LANE
ST LOUIS, MO 63122

TAUTE, HERMANN OBG
2821 N BALLAS RD
ST LOUIS, MO 63131
314-872-8636

TAYLOR, EUGENE O OBG
2715 N UNION
ST LOUIS, MO 63113
314-385-5550

TAYLOR, ROBERT W JR IM
2511 INDIAN RIDGE
SAN ANTONIO, TX 78231
512-492-0034

TAYOB, ANVER A ORS
1325 S GRAND BLVD
ST LOUIS, MO 63104
314-771-7643

TEKWANI, HIRALAL T OPH
3555 SUNSET OFFICE DR
ST LOUIS, MO 63127
314-842-2020

TEMPORAL, ADELAIDE FP
10048 HILLTOP DR
ST LOUIS, MO 63128
314-487-0400

TEMPORAL, JOSE A FP
12660 LAMPLIGHTER SQ
ST LOUIS, MO 63128
314-842-5515

TEPPER, ARNOLD IM
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-432-6688

TERNBERG, JESSIE L POS
500 S. KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-6022

TESS, ALLEN F OPH
1245 GRAHAM RD STE 411
FLORISSANT, MO 63031
314-837-3667

TESS, MELVIN J PH
1501 SWITZER AVE
ST LOUIS, MO 63147

TETER, MARY L P
10 PLAZA SQUARE APT 1012
ST. LOUIS, MO 63103
314-454-3377

*TETTAMBEL, MELICIEN A OBG
3533 RITZ CENTER
ST. LOUIS, MO 63125
314-894-3040

THALE, THOS R P
11 S. MERAMEC
SUITE 1000
CLAYTON, MO 63105
314-727-7700

THAWLEY, STANLEY OTO
4911 BARNES HOSPITAL PLAZA
ST LOUIS, MO 63110
314-454-3055

THIEL, J. ALLEN A
621 SOUTH NEW BALLAS RD
ST LOUIS, MO 63141
314-872-7958

THIELE, BELMONT R GS
6862 W. BAILE RD.
LAS VEGAS, NV 89102

THIERAUF, CHAS G R
9444 SUNNY CREEK
ST LOUIS, MO 63127
314-865-3333

THOMA, GEO E JR IM
3556 CAROLINE
ST LOUIS, MO 63104
314-664-9800

THOMAS, GRACY R
16 CHESHIRE CT.
COLLINSVILLE, IL 62234
314-367-1197

THOMAS, LEWIS J JR AN
700 S EUCLID ST-B10 COM
ST LOUIS, MO 63110
314-454-3364

THOMAS, PATRICK R. M. R
4511 FOREST PARK BLVD.
ST. LOUIS, MO 63110
314-454-3381

THOMAS, ROY L GS
300 MANSION HOUSE CENTER
APT. 1402
ST. LOUIS, MO 63102

THOMASSON, MARY W R
525 ST FRANCOIS PLACE
FLORISSANT, MO 63031
314-837-3720

THOMASSON, ROBERT E GS
525 ST FRANCOIS PLACE
FLORISSANT, MO 63031
314-837-3721

THOMPSON, M. BRYANT OBG
522 N NEW BALLAS RD
ST LOUIS, MO 63141
314-567-1013

THOMPSON, WILLIAM S GP
4930 LINDELL BLVD.
ST. LOUIS, MO 63108
314-367-3770

THOMSON, WILLIAM M IM
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-878-6260

THURMANN, MANFRED IM
950 ST FRANCIS PL
ST LOUIS, MO 63105
314-726-6512

THURSTON, DONALD L PO
500 SO KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-6000

TICHENOR, ROBT W FP
BOX 8568 SAPPINGTON STA
ST LOUIS, MO 63126
314-843-1111

TIEFENBRUNN, SHARON O O
6651 CHIPPEWA
SUITE 323
ST. LOUIS, MO 63109
314-781-0794

TILLMAN, ERNEST OM
800 N. LINDBERGH
ST. LOUIS, MO 63141
314-694-8808

TILLMAN, MARY A PO
4511 FOREST PARK
SUITE 201
ST LOUIS, MO 63108
314-361-0901

TINDALL, ROBT N OTO
1 COLONY POINT DR.
APT. 14C
PUNTA GORDA, FL 33950

TIPPETT, JACK C ORS
300 S. GRAND
ST LOUIS, MO 63103
314-658-5702

TOBEY, ALBRO C JR OBG
777 S. NEW BALLAS RD. #215-E
ST. LOUIS, MO 63141
314-567-7303

TOMLINSON, WM L GS
15049 CLAYMOOR CT.
APT 7
CHESTERFIELD, MO 63017

TONELLI, GEO L OTO
5723 NEOSHO
ST LOUIS, MO 63109

TORIN, BERNICE A OBG
951 OLD BONHOMME
ST LOUIS, MO 63132

TORO, ENRIQUE F IM
350 COUNTRY GLEN LANE
ST LOUIS, MO 63141
314-821-3900

TOTTI, NOEL III IM
1345 GLENMEADE DR.
MARYLAND HGHTS, MO 63043
314-434-7515

TOTTY, WILLIAM G R
948 NANA LANE
ST. LOUIS, MO 63131

TREIMAN, ROBT C IM
7 RADNOR RD
ST LOUIS, MO 63131

TRIGG, JOSEPH F GP
OCEAN REEF CLUB
13 CALOOSA RD
KEY LARGO, FL 33037

TRISKA, ROLAND A PO
533 COUCH
KIRKWOOD, MO 63122
314-966-3324

TROTTA, PHILIP C OR
1578 FOXHAM DR.
CHESTERFIELD, MO 63017
314-441-6730

TROTTER, FRANCIS O JR R
6150 OAKLAND
ST LOUIS, MO 63139
314-645-9003

TROTTER, JOHN L N
660 S. EUCLID
ST. LOUIS, MO 63110
314-454-2385

TRUEBLOOD, ALVA C OBG
731 N. TAYLOR
ST LOUIS, MO 63122
314-965-9200

TRUGLY, EDITH S P
12 HACIENDA DR
ST LOUIS, MO 63124
314-569-0811

TRULOCK, ELBERT P IM
223 E. ADAMS
KIRKWOOD, MO 63122
314-822-3221

TRUNKO, LEO IM
1900 TELEGRAPH RD
ST LOUIS, MO 63125
314-544-2211

TSCHOE, BJONG-SUHN PS
6401 WEST MAIN STREET
BELLEVILLE, IL 62223
618-398-5600

TSCHUDIN, GARLAND PO
2744 RUSSELL
ST LOUIS, MO 63104
314-644-2727

TSIFUTIS, ARGYRIOS A PO
2915 TRAFALGAR DE
TOWN AND COUNTR, MO 63131
314-291-4994

TUCKER, DOLORES R D
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-878-2556

TUCKER, EUGENE F PTH
6420 CLAYTON RD
ST LOUIS, MO 63117
314-768-8000

TUCKER, GEO L GS
224 S. WOODS MILL RD.
SUITE 290
CHESTERFIELD, MO 63017
314-434-3031

TUCKER, ROBERT E ORS
533 COUCH AVE.
ST. LOUIS, MO 63122
314-966-0111

TURGEON, RONALD P PTH
6420 CLAYTON RD
ST LOUIS, MO 63117
314-644-3000

*TURNER, TIMOTHY T FP
273 PENNINGTON LN
CHESTERFIELD, MO 63017
314-355-2300

TWEDELL, DONALD L OM
6670 ESTERO BLVD. #502
FT MEYERS BEACH, FL 33931

---

* Doctor of Osteopathy.

UHLEMEYER, HENRY A OTO
5203 CHIPPEWA ST
ST LOUIS, MO 63109
314-481-2122
ULETT, GEO A P
6484 CLAYTON AVE.
ST LOUIS, MO 63139
314-645-0860
ULETT, PEARL C CHP
6484 CLAYTON AVE.
ST LOUIS, MO 63139
314-645-0860
UMALI-SESSOMS, NORA C AN
P. O. BOX 4056
LOUISVILLE, KY 40204
UNGVARI, JOS C GS
6500 CHIPPEWA STE 107
ST LOUIS, MO 63109
314-351-1480
VACCA, JOS B IM
3915 WATSON RD
ST LOUIS, MO 63109
314-644-7100
VADLAMANI, S GS
6651 CHIPPEWA, SUITE 218
ST LOUIS, MO 63109
314-781-1580
VAFI, HOUSHANG P
3125 LEMAY FERRY RD.
ST LOUIS, MO 63125
314-892-4555
VAKASSI, N PTH
10010 KENNERLY RD.
ST. LOUIS, MO 63128
314-842-5600
VALACH, FRANK J OBG
2821 N BALLAS RD
ST LOUIS, MO 63131
314-872-7070
VALDES, ORESTES S PD
1526 BROOKBINDER DR
ST LOUIS, MO 63141
314-355-2300
VALKO, ROBERT J P
1245 GRAHAM RD
SUITE 301
FLORISSANT, MO 63031
314-921-6505
VALLURUPALLI, VIJAYALAKSHMI AN
1325 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-771-7600
VALTIERRA, CESAR A P
6744 CLAYTON RD
ST LOUIS, MO 63117
314-781-2012
VAN AMBURG, ALBERT L III IM
4910 FOREST PARK #202
ST. LOUIS, MO 63108
314-361-7786
VAN GOIDSENHOVEN, GUY E IM
1035 BELLVUE
ST LOUIS, MO 63117
314-645-2810
VAN MATRE, REBER M P
1436 SHERIDAN ST NW
WASHINGTON, DC 20011
VAN NATTA, GRETCHEN A OBG
536 LYMAN
ST. LOUIS, MO 63119
314-961-7959
VAN NORMAN, ROBT T PS
6651 CHIPPEWA
ST LOUIS, MO 63109
314-644-0450
VANDER WOUDE, JOHN C GS
4989 BARNES HOSPITAL PLAZA
ST. LOUIS, MO 63110
314-454-3245
VANDIVORT, PAUL M JR P
141 N. MERAMEC SUITE 218
CLAYTON, MO 63105
314-721-2286
VANDOVER, JOHN T GP
3 GRANTWOOD LANE
ST LOUIS, MO 63123
VANNIER, MICHAEL W R
510 S. KINGSHIGHWAY
ST. LOUIS, MO 63110
314-454-2181
VARDELEON, ROGER V GS
327 CONWAY LAKE DR
ST LOUIS, MO 63141
314-773-0737
VARGAS, TEODORO FP
319 N FIRST ST
PACIFIC, MO 63069
314-257-3946
VATTEROTT, PAUL B GP
55 CHAMINADE DR
ST LOUIS, MO 63141
VATTEROTT, PAUL B JR IM
1538 WOODLAKE DR.
CHESTERFIELD, MO 63017
314-434-1600
VAUGHAN, J R OBG
940 GOLF COURSE DR
ST LOUIS, MO 63132

VELASCO, ERNESTO T OM
1704 S BROADWAY
ST LOUIS, MO 63104
314-436-5100
VELUZ, BENITO I IM
5203 CHIPPEWA
ROOM 209
ST LOUIS, MO 63109
314-352-3181
VENABLE, H. PHILIP OPH
6744 CLAYTON RD.
ST LOUIS, MO 63117
314-645-6700
VENTUS, MANUEL A GS
9953 LEWIS & CLARK BLVD.
SUITE 202
ST LOUIS, MO 63136
314-867-0422
VERDE, JULIAN N R
6150 OAKLAND AVE.
ST LOUIS, MO 63139
314-645-9003
VEST, JAMES C TS
12255 DEPAUL DR STE 15
ST LOUIS, MO 63044
314-567-4142
VIAMONTES, JORGE A P
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5011
VIANZON, ELIZABETH R OBG
14356 RAINY LAKE DR
CHESTERFIELD, MO 63017
314-367-5820
VICKAR, GARRY M P
1245 GRAHAM RD RM 506
FLORISSANT, MO 63031
314-837-4900
VIERLING, STEPHEN E ORS
10004 KENNERLY RD.
ST. LOUIS, MO 63128
314-849-6555
VIERS, WAYNE A OTO
135 W ADAMS
ST LOUIS, MO 63122
314-966-5252
VIGHI, JAMES R DTD
2850 W CLAY
ST CHARLES, MO 63301
314-724-1940
VIJUNGCO, HERMINIA D AN
115 LADUE LAKE DR
CREVE COEUR, MO 63141
314-355-2300
VIJUNGCO, JOSE G R
115 LADUE LAKE
CREVE COEUR, MO 63141
314-842-3560
VILAR, ESTER G PTH
1521 YARMOUTH PT
CHESTERFIELD, MO 63107
VILAR, PIO M GS
4211 BAYLESS
ST LOUIS, MO 63123
314-638-2725
VILLAFUERTE, NILA A AN
12563 HIBLER WOODS DR.
ST LOUIS, MO 63141
314-434-1500
VILLAFUERTE, RENATO G CLP
716 HANLEY INDUSTRIAL COURT
ST LOUIS, MO 63144
314-645-1960
VILLAMAR, ELIZABETH N OBG
14227 RELLFOOT LAKE DR
CHESTERFIELD, MO 63017
314-961-8206
VILLARAMA, ANTONIO P GS
12864 TOPPING MEADOWS
ST LOUIS, MO 63131
314-677-3469
VILORIA, ALBERTO B GS
10260 OLDE MILLING RD
ST LOUIS, MO 63131
314-352-2100
VINJAMURI, MADHAV B AN
660 S. EULIO AVE.
ST. LOUIS, MO 63110
314-454-2858
VIRANT, JOHN A OTO
119 S. SPOEDE RD
ST LOUIS, MO 63141
VITALE, ANTHONY J GS
7150 NATURAL BRIDGE RD
ST LOUIS, MO 63121
314-383-1192
VITALE, NICHOLAS S GP
614 COACHLIGHT LANE
HAZELWOOD, MO 63042
314-383-1192
VITALE, STEPHEN J O
14377 WOODLAKE DR.
CHESTERFIELD, MO 63017
314-434-8477
VITALE, THOMAS J GS
5878 DELOR
ST LOUIS, MO 63109
314-569-6440

VITALE, VICTORIA A GS
5878 DELOR
ST. LOUIS, MO 63109
314-771-7600
VITT, EDWIN F GS
16 HAMPTON VILLAGE
ST LOUIS, MO 63109
314-832-2191
VIVIANO, JOS G OBG
16 HAMPTON VILLAGE
ST LOUIS, MO 63109
314-351-9091
VOLLMAR, LEWIS C JR D
10004 KENNERLY RD
ST LOUIS, MO 63128
314-842-4840
VONGSNICHAKUL, S. GS
3654 S. GRAND BLVD.
ST. LOUIS, MO 63118
314-771-1822
VOORHEES, KENTON I FP
615 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-6010
VOTAW, ROBT E OTO
10 WARSON TERRACE
ST LOUIS, MO 63124
VOURNAS, CHRISTOPHER G IM
12255 DEPAUL DR SUITE 865
BRIDGETON, MO 63044
314-291-7730
VOURNAS, GEORGE C CD
12255 DE PAUL DR.
BRIDGETON, MO 63044
314-291-7730
WACKER, LEO L FP
3563 RITZ CENTER DR
ST LOUIS, MO 63125
314-892-3132
WAGAN, PRIMITIVA C IM
300 S GRAND
ST LOUIS, MO 63103
314-658-5648
WAGNER, JOHN R ORS
P. O. BOX 31097
ST LOUIS, MO 63131
314-569-0612
WAHL, RICHARD L DR
1446 HAWTHORNE PL
RICHMOND HTS, MO 63117
314-647-4277
WALD, MARK S IM
11133 DUNN RD.
ST. LOUIS, MO 63136
314-355-2300
WALD, STANLEY M IM
4511 FOREST PARK BLVD
ST LOUIS, MO 63108
314-367-5308
WALENTIK, CORINNE PD
1515 LAFAYETTE AVE.
ST LOUIS, MO 63104
314-622-5361
*WALKER, DAVID BROOKS D
11245 ST. CHARLES ROCK RD.
BRIDGETON, MO 63044
314-739-6300
WALKER, FRANCIS S NS
1035 BELLEVUE AVE
ST LOUIS, MO 63117
314-644-6565
WALKER, HARVEY JR IM
138 N MERAMEC AVE
CLAYTON, MO 63105
314-721-7227
WALKER, J LESLIE OBG
522 N NEW BALLAS RD
CREVE COEUR, MO 63141
314-567-6580
WALKER, WILLARD B GS
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63117
314-727-2011
WALL, EMMETT D IM
5823 NOESHO
ST LOUIS, MO 63109
WALL, LESTER E POA
533 COUCH
KIRKWOOD, MO 63122
314-821-2100
WALSH, BARBARA A OBG
777 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-567-5016
WALSH, JAMES W IM
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63117
314-721-0666
WALTER, KENNETH E CD
9188 RUSTICWOOD TRAIL
ST LOUIS, MO 63126
314-652-4100
WALTER, WM L OPH
135 W ADAMS
ST LOUIS, MO 63122
314-966-2500
WALTERS, HAROLD E GS
6828 OAKLAND
ST LOUIS, MO 63139
314-645-7636

---

* Doctor of Osteopathy.

WALTERS, HENRY W O
35 N CENTRAL AVE
CLAYTON, MO 63105
314-727-2662
WALTERS, RICHARO C US
7511 BIG BENO BLVO
WEBSTER GROVES, MO 63119
WALTHER, ROY A JR OBG
9440 MIDLAND
ST LOUIS, MO 63114
314-426-3444
WALTMAN, STEPHEN R OPH
342 MAGNA CARTA OR
ST LOUIS, MO 63141
314-454-3104
WALZ, BRUCE J TR
4511 FOREST PARK
ST LOUIS, MO 63108
314-454-3481
WANLESS, ROBERT C PS
57 COUNTRY CLUB PL
BELLEVILLE, IL 62223
618-398-5600
WARREN, JAMES C OBG
4911 BARNES HOSP
ST LOUIS, MO 63110
314-454-2350
WASHINGTON, WALTER GS
3400 N KINGSHIGHWAY BLVO.
ST LOUIS, MO 63115
314-385-3600
WASSERMAN, ALAN OBG
1552 WOOOROYAL OR.
CHESTERFIELO, MO 63017
314-454-7000
WASSERMAN, GARY M OBG
1539 WOOOROYAL WEST DR
CHESTERFIELO, MO 63017
314-532-2220
WASSERMAN, HELMAN C OBG
911 S BRENTWOOO BLVO
ST LOUIS, MO 63105
314-721-8852
WATERS, HUGH R IM
224 S. WOOOS MILL RD.
CHESTERFIELO, MO 63017
314-576-0933
WAXELMAN, ROGER J PD
309 MANCHESTER RO
MANCHESTER, MO 63011
314-391-8710
WAYNE, SHERWYN J ORS
533 COUCH AVE.
SUITE 220
ST LOUIS, MO 63122
314-966-0111
WEBB, PAUL B JR OPH
6651 CHIPPEWA ST
ST LOUIS, MO 63109
314-647-8015
WEBBER, WM B PS
SUITE 312 6744 CLAYTON RO.
ST LOUIS, MO 63117
314-781-2889
WEBER, J. RUSSELL ORS
533 COUCH AVE.
SUITE 220
ST LOUIS, MO 63122
314-966-0111
WEBSTER, RAYMONO L AM
USAF SCHOOL OF AEROSPACE MEO
BROOKS AFB, TX 78235
512-536-2844
WEE, GEO C GS
#24 WINCHESTER PLAZA
202 MANCHESTER RO
WINCHESTER, MO 63011
314-391-8445
WEEO, OAVIO H PO
10004 KENNERLY RO.
ST. LOUIS, MO 63128
314-843-0500
WEEKS, PAUL M PS
4949 BARNES HOSPITAL PLAZA
SUITE 17424
ST LOUIS, MO 63110
314-454-3455
WEILER, THOS J GS
615 SOUTH NEW BALLAS RO
ST LOUIS, MO 63141
314-569-6816
WEINHAUS, ROBT S P
1221 S. GRANO
ST LOUIS, MO 63104
314-771-6400
WEIR, DON C R
625 SHERWOOO DR
ST LOUIS, MO 63119
314-642-2838
WEIR, ROYAL A GS
1012 CLA TER RI OR
BALLWIN, MO 63011
WEIS, LANOY PTH
11133 OUNN RO.
ST LOUIS, MO 63136
314-355-2300

WEISS, ALAN N CO
4989 BARNES HOSP PLAZA
17312 W. PAVILION
ST LOUIS, MO 63110
314-454-3660
WEISS, HOWARO N
141 N MERAMEC AVE
ST LOUIS, MO 63105
314-726-3202
WEISS, STUART N
BARNES HOSPITAL PLAZA
SUITE 16304
ST LOUIS, MO 63110
314-367-3122
WELOON, CLARENCE S CDS
SUITE 3108 QUEENY TOWER
4989 BARNES HOSP PLZ
ST LOUIS, MO 63110
314-454-3458
WELOON, VIRGINIA V PO
WASHINGTON UNIVERSITY
660 S EUCLIO-BOX 8106
ST LOUIS, MO 63110
314-454-2912
WELGUS, HOWARO G O
109 OLO OAK
BALLWIN, MO 63011
314-454-2641
WELLS, SAMUEL A JR GS
4960 AUOUBON AVE.
ST. LOUIS, MO 63110
314-454-2870
WELNER, ZILA CHP
4940 AUDUBON AVE.
ST LOUIS, MO 63110
314-454-4850
WELSH, LAURENCE C FP
1930 UNION RD
ST LOUIS, MO 63125
314-544-4545
WENNEKER, ALVIN S IM
8112 OELMAR BLVD
ST LOUIS, MO 63130
314-725-7400
WERNER, WM A IM
621 S. NEW BALLAS RO.
ST LOUIS, MO 63141
314-569-6958
WERSHIL, BARRY K PO
1125 CLAYTONIA TERR
ST. LOUIS, MO 63117
314-645-6653
WESSELY, JAMES R EM
525 COUCH AVE.
KIRKWOOO, MO 63122
314-966-1528
WEST, JOS W OTO
1800 W. AOAMS
ST LOUIS, MO 63122
314-966-6656
WESTERMAN, ROBT N GS
6744 CLAYTON RO
ST LOUIS, MO 63117
314-647-3584
WESTRUP, ELLSWORTH A GP
8540 BIG BENO RD
WEBSTER GROVES, MO 63119
314-961-0138
WEYERICH, NOEL F IM
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-432-4415
WHALEN, MAURICE J IM
7354 PRINCETON AVE
ST. LOUIS, MO 63130
314-727-4698
WHEELER, THOMAS F EM
615 S. NEW BALLAS
CREVE COEUR, MO 63141
314-569-6090
WHITE, BRUCE I PS
456 N NEW BALLAS RO
ST LOUIS, MO 63141
314-569-2030
WHITE, NEWTON B ORS
10004 KENNERLY RO.
SUITE 355
ST LOUIS, MO 63128
314-849-4800
WHITENER, MILES C IM
9440 MIOLANO
ST LOUIS, MO 63114
314-429-1500
WHITENER, PAUL R GP
15201 OLIVE BLV AP 274
CHESTERFIELO, MO 63017
WHITESIOE, LEO A ORS
SUITE #360
12255 OEPAUL OR.
BRIDGETON, MO 63044
314-291-7181
WHITTICO, JAMES M GS
2715 UNION BLVO
ST LOUIS, MO 63113
314-382-7500
WIANT, JAMES R PUD
621 S NEW BALLAS RO
ST LOUIS, MO 63141
314-569-6107

WIEDERSHINE, LEONARD J P
522 N NEW BALLAS RO STE
ST LOUIS, MO 63141
314-569-1717
WIEGAND, HERBERT C IM
4989 BARNES PLAZA STE 3
ST LOUIS, MO 63110
314-361-7660
WIENKE, EUGENE C CLP
2204 WELSCH INOUSTRIAL CT.
ST LOUIS, MO 63141
314-432-1850
WILBOIS, RONALO P OBG
SUITE #208
3009 NORTH BALLAS RO
ST LOUIS, MO 63131
314-872-9200
WILKINSON, DAVIO NS
10007 KENNERLY RD
ST LOUIS, MO 63128
314-843-0122
WILLEY, CHARLES J IM
1429 AUTUMN LEAF OR.
BALLWIN, MO 63011
314-432-7519
WILLIAMS, CALVIN E AN
944 THUNDERHEAO
ST. LOUIS, MO 63138
314-355-2300
WILLIAMS, CAROL F GYN
950 FRANCIS PL.
SUITE 303
ST LOUIS, MO 63105
314-725-0511
WILLIAMS, JOSEPH ORS
621 S NEW BALLAS RO.
SUITE 101
ST.LOUIS, MO 63141
314-567-0600
WILLIAMS, PAUL A FP
615 S. NEW BALLAS RO.
CREVE COEUR, MO 63141
314-569-6090
WILLIAMS, R. JEROME SR. IM
3409 N UNION
ST LOUIS, MO 63115
314-261-4834
*WILLIAMS, ROBERT J P
P. O. BOX 9306
RAPIO CITY, SO 57701
WILLIAMS, ROY J JR IM
4320 A MARYLANO
ST. LOUIS, MO 63108
314-454-2000
WILLIAMSON, WALTER E OM
RT #1 BOX 125W
WINTER GAROEN, FL 32787
WILLIS, H. ROBERT EM
646 N. KIRKWOOD RO.
ST LOUIS, MO 63122
314-724-2810
WILLMAN, VALLEE L GS
1325 S. GRAND BLVO.
ST LOUIS, MO 63104
314-771-7600
WILSON, KEITH S IM
9 CRESTWOOO DR
ST LOUIS, MO 63105
WILUCKI, MELVIN R GP
8916 GRAVOIS AVE
ST LOUIS, MO 63123
314-631-7113
WIMMER, WARREN J PO
3220 PARKER RD
FLORISSANT, MO 63033
314-921-4500
WINOSOR, CHAS E OPH
621 S NEW BALLAS RO
ST LOUIS, MO 63141
314-567-5602
WINER, MICHAEL H ORS
522 N NEW BALLAS RO
ST LOUIS, MO 63141
314-432-2323
WINKLER, WILLIAM H FP
5101 HAMPTON AVE.
ST. LOUIS, MO 63109
314-481-4455
WINTER, JOHN H IM
3394 MCKEVEY RD
BRIDGETON, MO 63044
314-739-5070
WINTER, TYRUS D OBG
100 N EUCLIO
ST LOUIS, MO 63108
314-361-6633
WINTERS, KATHLEEN PO
100 NORTH EUCLID
ST LOUIS, MO 63108
314-361-6700
WISSNER, SETH E OBG
16 HAMPTON VILLAGE
ST LOUIS, MO 63109
314-352-6969
WITHROW, DONALO CLP
10 THORNDELL OR
ST LOUIS, MO 63117
314-567-3905
WITT, CLYOE M R
527 MEAOOW CREEK LANE
ST LOUIS, MO 63122

---

* Doctor of Osteopathy

WITTEN, BARRY I OBG
621 S. NEW BALLAS RO.
ST. LOUIS, MO 63141
314-569-6880
WITTGEN, EDWARD M ORS
1031 BELLEVUE AVE.
SUITE 200
ST LOUIS, MD 63117
314-647-8562
WITTLER, HARRY A GS
325 N KIRKWODD RD
KIRKWOOD, MO 63122
314-821-6162
WOLF, JAMES A JR GS
1128 SANFORD
ST. LOUIS, MO 63139
WOLF, MITCHELL L OPH
216 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-7887
WOLFE, EDWARO M O
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-432-8199
WDLFF, DOLORES P AN
2306 LELANO RIDGE WALK
ST. LOUIS, MO 63131
314-569-2030
WOLFF, GERALD A IM
4949 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-367-2400
WDLFF, HARDLD D P
12534 POST GROVE
ST. LOUIS, MO 63141
314-569-1717
WOLFF, RAY J P
1040 N MASON
ST. LOUIS, MO 63141
314-434-6020
WOLFGRAM, EDWIN D P
4500 W PINE BLVD
ST LOUIS, MO 63108
314-367-1944
WOOD, JAMES A IM
141 N MERAMEC
CLAYTON, MO 63105
314-725-4887
WOOD, JOHN A A
224 S. WOODS MILL RO.
CHESTERFIELD, MD 63017
314-878-6260
WOOL, GERALD PD
8025 DALE
ST LOUIS, MD 63117
314-644-2566
WOOLSEY, JOYCE E PD
1034 S BRENTWOOD
ST LOUIS, MO 63117
314-725-1522
WOOLSEY, ROBT M N
1325 S GRAND BLVD
ST LOUIS, MO 63104
314-771-7600
WDTAWA, WM J DBG
3804 WILMINGTON AVE
ST LOUIS, MD 63116
314-481-7224
WRAY, RDBT C JR PS
4949 BARNES HOSPITAL PLAZA
ST LOUIS, MO 63110
314-454-3455
WULFF, GED J OBG
120 CAMELOT DR
TAVERNIER, FL 33070
WURR, DIETER H FP
ARNOLD MEO CTR BOX 99
ARNOLD, MO 63010
314-296-5464
WYATT, LOIS C FP
103 N TAYLOR AVE
KIRKWOOD, MO 63122
314-821-2624
YALCIN, ENVER IM
13070 OLD TESSON FERRY RD
ST LOUIS, MD 63128
314-843-3966
YANG, CHAO-YUNG AN
6420 CLAYTON RD.
ST. LOUIS, MO 63177
314-768-8000
YANNAKAKIS, JDHN E OBG
1245 GRAHAM
FLORISSANT, MO 63031
314-831-6517
YANOVER, ROBERT A N
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-878-1110
YANOW, MITCHELL OBG
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5016
YAP, MARDONID J GS
493 RUE ST FRANCOIS
FLORISSANT, MO 63031
314-831-0077
YASIN, FAZLE M P
6125 CLAYTON AVE.
ST. LOUIS, MO 63139
314-644-1333

YATES, DARREL W DR
2821 N BALLAS RD
ST LOUIS, MO 63131
314-432-5284
YAZDI, TOM M OBG
16 HAMPTON VILLAGE PLAZA
ST LOUIS, MO 63109
314-352-6969
YLAGAN, AMANOO JR GS
8548 BRYAN AVE.
ST LOUIS, MO 63117
314-644-0256
YDRE, RICHARO W TS
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63117
314-862-3711
YOSELEVSKY, ROBERT OPH
12563 BICKFORO DRIVE
TOWN & COUNTRY, MO 63141
314-432-5478
YOUNG, PAUL H NS
1325 S. GRANO
ST. LOUIS, MO 63104
771-7600
YOUNG, VERNON L PS
4960 AUDUBON
ST. LOUIS, MO 63110
314-454-3455
YOUNGE, WALTER A IM
4635 DR. MARTIN LUTHER KING
ST. LOUIS, MO 63113
314-531-2288
YOUNGER, ANITA C GP
12 COUNTRY AIRE
ST LOUIS, MO 63131
YDUNGER, ERNEST GP
6813 15TH AVE. DR. WEST
BRAOENTDN, FL 33529
ZACK, PAUL M IM
1751 LEGEND LANE
ST. LOUIS, MO 63141
314-771-7600
ZAHORSKY, THEODORE S PD
800 S HANLEY RD-APT 3B
ST LOUIS, MO 63105
ZEFFREN, JOEL L IM
2428 WOODSON RD
DVERLANO, MO 63114
314-427-2424
ZEHNDER, KENNETH W ORS
1031 BELLEVUE AVE., #200
ST. LOUIS, MO 63117
314-647-8562
ZEIGLER, JOS M R
3933 S. BROADWAY
ST LOUIS, MO 63118
314-865-3333
ZEKERT, HORST IM
5203 CHIPPEWA
ST LOUIS, MD 63109
314-351-2298
ZIA, RASHID P
915 N GRAND
ST. LOUIS, MD 63106
314-487-0400
ZIEGELMEYER, JOHN S GP
40 N KINGSHIGHWAY
ST LOUIS, MO 63108
ZIMMERMAN, HERBERT B IM
456 N. NEW BALLAS
SUITE 299
ST LOUIS, MO 63141
314-569-1090
ZINGALE, FRANK G U
6500 CHIPPEWA ST
ST LOUIS, MO 63109
314-351-0155
ZINK, ROBERT A FP
5101 HAMPTON AVE.
ST. LOUIS, MO 63109
314-481-4451
ZINK, TOM PTH
615 S. NEW BALLAS
ST. LOUIS, MD 63141
314-731-1143
ZIVNUSKA, FREDERICK R TR
615 S NEW BALLAS RO.
ST LOUIS, MO 63141
314-569-6844
ZOGRAFAKIS, GEO H PS
4949 BARNES HOSPITAL PLAZA
SUITE 1741B
ST LOUIS, MO 63110
314-361-3612
ZOTDS, VERONICA D PTH
10010 KENNERLY RD.
ST. LOUIS, MD 63128
314-525-1144
ZUCKNER, JACK IM
16 OAKLEIGH LANE
ST LOUIS, MO 63124
314-567-5100
ZUKOWSKI, EDWARO T R
6710 CLAYTON RO.
ST. LOUIS, MD 63117
314-781-1103
ZWART, CLAUDE H OTO
4335 W. PINE #130
ST LOUIS, MO 63108

ZWIRN, HANS B PD
493 ST FRANCOIS
FLORISSANT, MO 63031
314-838-4303

198—SALINE

BAIK, KENNETH Y GS
917 SOUTH ODELL
MARSHALL, MO 65340
816-886-9644
BLALOCK, RDBT W IM
370 S ODELL ST
MARSHALL, MD 65340
816-886-3366
BUTNER, MICHAEL R US
370 S ODELL
MARSHALL, MO 65340
816-886-3565
HAMID, RASHID S FP
107 E. VINE
BRUNSWICK, MO 65236
816-548-3021
KNIPSCHILO, BEDFORD F GP
370 S OOELL ST
MARSHALL, MO 65340
816-886-3366
LAWRENCE, JOHN R GP
PROFESSIONAL BLDG
ARROW ROCK, MO 65320
816-837-3430
MC BURNEY, CHAS A FP
927 HURT ST.
SLATER, MO 65349
816-529-3222
MC CORKLE, E L GP
MARSHALL PROF BLDG
MARSHALL, MD 65340
816-886-6131
MONRDE, PHILIP L FP
370 S. ODELL AVE.
MARSHALL, MO 65340
816-886-3366
PAPRECK, K T FP
370 S ODELL
MARSHALL, MO 65340
816-886-3366
RAYNDR, RICHARO C GP
370 S DOELL
MARSHALL, MO 65340
816-886-3366
REIO, JAMES A FP
6 BEDWELL LANE
BELLA VISTA, AR 72712
ROEHRS, MARVIN E GP
370 S OOELL ST
MARSHALL, MO 65340
816-886-3366

202—SEMO
(Stoddard-New Madrid-Mississippi-Scott Counties)

AHLVIN, ROBT C PTH
DELTA COMMUNITY HOSPITAL
SIKESTON, MO 63801
314-471-1600
ASKEW, JOHN H FP
1012 N MAIN STREET
SIKESTON, MO 63801
314-471-0330
BALLIN, ROBERT A AN
733 N. MAIN (REAR)
SIKESTON, MO 63801
314-472-1104
BLANTON, JOS C PO
1012 N MAIN ST
SIKESTON, MO 63801
314-471-0330
BOOTH, WM V GS
ONE MILE RO
DEXTER, MO 63841
314-624-5911
BRUCE, LEO A OPH
808 E WAKEFIELO
SIKESTON, MO 63801
314-471-3358
CAMPBELL, JAMES W GP
AOVANCE, MD 63730
314-722-5173
CATRON, DAVID O FP
ONE MILE RD
DEXTER, MO 63841
314-624-5911
CENTO, DONALD PTH
MO. DELTA COMMUNITY HOSP.
SIKESTON, MO 63801
314-471-1600
CHOUINARD, MICHAEL P IM
1012 N MAIN ST
SIKESTON, MO 63801
314-471-0330
COLBERT, ROBT S R
108 SALCEDO ROAD
SIKESTON, MO 63801
314-471-1600

COMEAU, RICHARD J GP
W GRANT-CATALPA STS
DEXTER, MO 63841
314-624-3137

CRITCHLOW, MICHAEL E IM
1012 NORTH MAIN
SIKESTON, MO 63801
314-471-0330

CRITCHLOW, WM C FP
BOX 1068
SIKESTON, MO 63801
314-471-0330

DAVIS, WILBUR L FP
101 A NORTH MAIN ST.
CHARLESTON, MO 63834
314-683-6609

DUPONT, JEAN R CD
1012 N MAIN ST
SIKESTON, MO 63801
314-471-0330

FELKER, C. EDWARD III OTD
1118 N. MAIN
SIKESTON, MO 63801
314-471-6992

FRAZIER, ROBT L FP
110 DUDLEY DR
SIKESTON, MO 63801
314-471-1600

GUZMAN, ANTONIA J OBG
P.O. BOX 668
HIGHWAY 114 W.
DEXTER, MO 63841
314-624-8977

GUZMAN, GENEROSO R OBG
RT. 4 BOX 135-A
DEXTER, MO 63841
314-624-8977

HARRISON, THOMAS J JR PD
1012 N. MAIN ST.
SIKESTON, MO 63801

HEATH, JIMMY D GP
320 N LINCOLN
P. O. BOX 38
EAST PRAIRIE, MO 63845
314-649-3026

HEEB, MAX A GS
1012 N MAIN ST
SIKESTON, MO 63801
314-471-0330

HELFRICH, LORING GS
1012 N MAIN
SIKESTON, MO 63801
314-471-0330

HENDERSON, THOS W FP
ONE MILE RD
DEXTER, MO 63841
314-624-5911

HILL, RONALD T GS
RT 4, BOX 145A
DEXTER, MO 63841
314-624-8917

HO, GRINNY H OBG
808 E WAKEFIELD ST
SIKESTON, MO 63801
314-471-7555

KAHN, JOSEPH A PD
1012 NORTH MAIN
SIKESTON, MO 63801
314-471-0330

MAHBOUBI, AZIZ O U
BOX 653
SIKESTON, MO 63801
314-471-6682

MARTIN, ANDREW D FP
808 E WAKEFIELD
SIKESTON, MO 63801
314-417-3717

MASTERS, EDWIN J FP
1012 N MAIN ST
SIKESTON, MO 63801
314-471-0330

PAGE, JESSE W IM
1012 N MAIN ST
SIKESTON, MO 63801
314-471-0330

PFEFFERKORN, DAVID A IM
1012 N MAIN
SIKESTON, MO 63801
314-471-0330

POPP, CARL G IM
916 ALLEN BLVD.
SIKESTON, MO 63801
314-471-0330

RHODES, JOHN L R
HIGHWAY 61 NORTH
SIKESTON, MO 63801
314-471-1600

RODRIGUEZ, GREGORIO L GS
P O BOX 394
CHARLESTON, MO 63834
314-683-6066

SARGENT, ALDEN P GP
808 E WAKEFIELD
SIKESTON, MO 63801
314-471-4314

SARGENT, JOHN P GS
808 E WAKEFIELD
SIKESTON, MO 63801
314-471-4314

SHELL, WILLIAM C GE
1012 N MAIN
SIKESTON, MO 63801
314-471-0330

THORNTON, FRED H GS
1012 N MAIN ST
SIKESTON, MO 63801
314-471-0330

THROGMORTON, HOWARD B GP
27 GREEN MEADOWS
SIKESTON, MO 63801
314-471-5807

WALTON, JOHN O FP
1012 N MAIN
SIKESTON, MO 63801
314-471-0330

WALTRIP, ROY T FP
307 W MALONE
SIKESTON, MO 63801
314-471-4510

206—SOUTH CENTRAL (Howell-Oregon-Texas-Wright-Douglas-Ozark Counties)

CHERN, MOU S IM
1303 JEFFERSON ST.
P.O. BOX 218
AVA, MO 65608
417-683-3511

CHOUDHURY, M. HASAN GP
1330 S. HIGHWAY 63
HOUSTON, MO 65483
417-924-3281

COFFEE, AMOS L GP
P O BOX 160
WILLOW SPRINGS, MO 65793
417-469-3175

CONE, WM D P
1335 BROADWAY
WEST PLAINS, MO 65775
417-256-9282

COOPER, CLAUDE W GP
204 CHESTNUT
THAYER, MO 65791
417-264-3610

DELANY, CLARENCE L DR
115 WALNUT ST. P.O. BOX 198
WEST PLAINS, MO 65775
417-256-9111

DIMAYUGA, NESTOR G FP
MERCY HOSP TRI-COUNTY
MANSFIELD, MO 65704
417-924-3281

DOHERTY, DANIEL W OPH
1202 KENTUCKY
WEST PLAINS, MO 65775
417-256-4111

DREYER, WM F GP
102 SW OAK CREST DR
HOUSTON, MO 65483
417-967-2232

DUFF, WILLIAM M GS
1337 SOUTH HIGHWAY 63
HOUSTON, MO 65483
417-967-3365

FAIZULLAH, ABULBASHER M FP
MANSFIELD HOSP. ANNEX
MANSFIELD, MO 65704

FOWLER, MARVIN L FP
P. O. BOX 1005
WEST PLAINS, MO 65775
417-256-2111

GENTRY, MARVIN C GP
RURAL ROUTE 2
AVA, MO 65608

GROSS, ROBERT E GP
P.O. BOX 20618
EL CAJON, CA 92021

HASEK, JAMES A FP
209 E. STATE ST.
MOUNTAIN GROVE, MO 65711
417-926-3155

HASEK, OLIVER M GP
600 N BUSCH AVE
MOUNTAIN GROVE, MO 65711
417-926-3155

HOFFMAN, LEANNA M IM
1434 W. EIGHTH ST.
WEST PLAINS, MO 65775

KANG, YOUNG M GS
P O BOX 725
214 MAIN ST
WEST PLAINS, MO 65775
417-256-8161

LANGEVIN, JACK A GS
BOX 348
WEST PLAINS, MO 65775
417-256-7900

LIONG, RICHARD C GP
1330-D S HIGHWAY 63
HOUSTON, MO 65483
417-967-4541

MAYUGA, LAUREANO G GS
BOX 499C
514 PINE
CABOOL, MO 65689
417-962-4255

MOORE, MICHAEL R GP
P.O. BOX 1005
WEST PLAINS, MO 65775
417-256-2111

MORGAN, WINFREY T JR FP
P. O. BOX 1005
WEST PLAINS, MO 65775
417-256-2111

PRESTON, BRUCE E FP
P. O. BOX 1005
WEST PLAINS, MO 65775
417-256-2111

RAY, DAVID J U
P.O. BOX A
WEST PLAINS, MO 65775
417-256-3141

SHAW, ROBERT D JR FP
P. O. BOX 148
WILLOW SPRINGS, MO 65793

SMITH, CLAUDE F FP
816 EAST SECOND ST
WILLOW SPRINGS, MO 65793
417-469-3116

SPEARS, JOE L GP
5100 PLACITA DIAZ
TUCSON, AZ 85718

STAPLETON, MICHAEL R DRS
MERCY HOSPITAL CLINIC
MANSFIELD, MO 65704
417-924-8811

STUBBS, THOMAS R GS
709 KENTUCKY
WEST PLAINS, MO 65775
417-256-0056

TARNEJA, KAILASH C DR
WEST PLAINS MEM HOSPITAL
P.O. BOX 1007
WEST PLAINS, MO 65775

WALKER, AMBROSE T FP
414 S 6TH ST
THAYER, MO 65791
417-264-7121

WALL, JOE A GP
107 EAST PINE
HOUSTON, MO 65483
417-967-3323

WILES, JACK N FP
P.O. BOX 290
WEST PLAINS, MO 65775
417-256-3123

208—TRI-LAKES (Stone-Taney Counties)

CHAFFIN, JERALD D FP
ROUTE 2, BOX 447
BRANSON, MO 65616
417-334-2841

CRAIN, JAMES W GS
P.O. BOX 280
BRANSON, MO 65616

GILLISPIE, ROY GP
BRANSON HGTS
BRANSON, MO 65616
417-334-3179

GILLISPIE, ROY JACK FP
DOCTORS MEDICAL BUILDING
BRANSON, MO 65616
417-334-6455

GREENBERG, BENJAMIN E R
ROUTE 2, BOX 1
FORSYTH, MO 65653
314-334-3155

HUFFMAN, THOS L FP
S R 2 BOX 447 - HWY 248
BRANSON, MO 65616
417-334-2841

HUNSLEY, PERRY U GS
427 C CAHILL ROAD
BRANSON, MO 65616
417-334-1093

MARS, HARTLEY F CRS
FORSYTH, MO 65653

O'BRIEN, ROBERT P ORS
SR 2 BOX 36
BRANSON, MO 65616
417-334-8877

REGIER, CARL M R
SKAGGS COMMUNITY HOSP
CAHILL RD
BRANSON, MO 65616
417-334-3155

WIBLE, JERRY C OTO
1211 S. GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511

ZELLER, WILLIAM M FP
P.O. BOX 1306
BRANSON, MO 65616
417-334-6455

210—WEBSTER

BAREIS, ROBT J FP
1331 SPUR DR
MARSHFIELD, MO 65706
417-468-2339

BYERS, JOSEPH R FP
P. O. BOX 145 MAIN ST.
FORDLAND, MO 65652
417-728-2291

MACDONNELL, THOS M FP
1331 SPUR DR
MARSHFIELD, MO 65706
417-468-2339

214—WEST CENTRAL (Bates-Cass-Cedar-St. Clair-Vernon Counties)

BARONE, PAUL L P
716 S MAIN
NEVADA, MO 64772
816-667-7833

BROWNSBERGER, ROBT H FP
APPLETON CITY, MO 64724
816-476-2121

CLARK, WILLIAM D FP
SOUTH PARK AND FREEMAN
EL DORADO SPGS., MO 64744
417-876-5851

D'SOUZA, ALOYSIUS F GS
1903 E. MECHANIC
HARRISONVILLE, MO 64701

EDIGER, MARK A FP
P.O. BOX F
HARRISONVILLE, MO 64701
816-884-3272

ELLETT, WM H GS
BOX 96
APPLETON CITY, MO 64724
816-476-5482

FREIN, DONALD E GP
111 S LEXINGTON
BOX F
HARRISONVILLE, MO 64701
816-884-3272

GARWOOD, JAN D FP
900 SOUTH ADAMS
NEVADA, MO 64772
417-667-6015

GEHM, LOUIS E DR
BATES COUNTY HOSP
615 NURSERY
BUTLER, MO 64730

GREENLUND, NELSON C FP
900 S ADAMS
NEVADA, MO 64772
417-667-6015

HANSEN, ARTHUR L GP
225 N MAIN ST
BUTLER, MO 64730
816-679-3871

HARMS, JAMES F GS
900 S ADAMS
NEVADA, MO 64772

HAYNIE, WILLIAM W GP
706 S. HIGH
BUTLER, MO 64730

JONES, EDWARD S FP
BENDIX CORP. BOX 1159
KANSAS CITY, MO 64141

JONES, ROBERT R PD
900 S ADAMS
NEVADA, MO 64772
417-667-6015

LONG, CURTIS W GP
200 W. CHESTNUT
BUTLER, MO 64730
816-679-4600

LOVINGER, WARREN C JR IM
122 W. WALNUT
NEVADA, MO 64772
417-667-8484

LUSK, CHAS A GP
911 COUNTRY CLUB
BUTLER, MO 64730
816-679-4473

MAGEE, ROBT L FP
808 S MAIN ST
ELDORADO SPRING, MO 64744
417-876-4234

MAGRUDER, LYELL M GP
NEVADA MEDICAL CENTER
NEVADA, MO 64772
417-667-6015

MC CANN, LOUIS P AN
920 W. CHERRY
NEVADA, MO 64772
417-667-6077

MICIANO, RUEL T FP
111 S LEXINGTON BOX 468
HARRISONVILLE, MO 64701
816-884-3272

MOORE, CANDICE A GP
122 W. WALNUT
NEVADA, MO 64772

MOORE, MICHAEL T DR
800 S. ASH
NEVADA, MO 64772

MORTON, WAYNE L FP
OSCEOLA, MO 64776
417-646-8153

PEARSE, ROY W GP
P.O.BOX 1198
FORSYTH, MO 65653

PRICE, RICHARD C FP
HARRISONVILLE MED CTR.
SOUTHSIDE SHOPPING CTR.
HARRISONVILLE, MO 64701
816-884-3244

REED, GLEN H GP
APPLETON CITY, MO 64724
816-476-2121

RINCK, EDWARD C P
900 S ASH
NEVADA, MO 64772
417-667-3142

SEEVERS, RUTH GP
OSCEOLA, MO 64776

STROBACH, ROBT L GP
706 SOUTH HIGH ST.
BUTLER, MO 64730
816-679-3118

SUWANABHAND, CHALAW IM
200 WEST CHESTNUT
BUTLER, MO 64730
816-679-3149

THIES, JEROME H FP
TRI COUNTY CLINIC
OSCEOLA, MO 64776
417-646-8153

THOMPSON, FREDERICK L FP
900 S ADAMS
NEVADA, MO 64772
417-667-6015

TORONTOW, RAPHAEL J IM
NEVADA MED CLINIC
NEVADA, MO 64772
417-667-6015

TURNER, WILLIAM A GS
NEVADA MEDICAL CLINIC
NEVADA, MO 64772
417-667-6015

VINSON, HAROLD A R
4242 S OSWEGO
TULSA, OK 74135

WHEELER, ROBT L FP
SOUTHLAND SHOPPING CTR
HARRISONVILLE, MO 64701
816-884-3244

WRAY, ROLLA B GP
701 S ADAMS
NEVADA, MO 64772
816-667-3748

— *Notes* —

Student Members

216—ST. LOUIS UNIVERSITY

DAVID A. ABBOTT
GARY M. ALBERS
DORIS J. ARMDUR
DAVID M. ARNDLD
ELISABETH J. BABB
RDBERT S. BASKA
M. ANNE BAUMGARDT MD
ANTDN G. BEFFA
GREGG J. BERDY MD
SUSAN E. BERDY
EDWARD J. BERNASKI
TIMDTHY P. BESSER
IRENE G. BIEG
GREGORY R. BLAIR
VALERIE A. BOAZ MD
MARK W. BDNNEVILLE
MICHAEL R. BDRTS
JDHN A. BOULLIER
MARIA J. BRAZIL MD
WAYNE A. BREER
RALPH P. BRDADWATER
STEVEN K. BRDDIE
DENNISTOUN K. BROWN
SUSAN G. BROWN
DAVID W. BRUMLEY
RICHARD K. BURT
GREGORY P. BURTON
JDHN C. BUSH
RDBERT A. BUZZELL
PHILIP J. CANNDN
MARY E. CDHAN
CRAIG W. CURTIS
NANCY L. CWACH
MARK A. DAELEY
LARRY P. DAVIS
WILLIAM R. DAVIS
MICHAEL J. DE RDSA
CLAUDE J. DEEN
JAMES W. DELDNG
FRANCIS X. DELVECCHID
ANTHDNY J. DERISO
FREDERICK C. DICKE
LIZBETH H. DIDRIKSEN
ELIZABETH W. DIEHL
STEVEN DINA
JEFFREY L. DRAVES
JAMES W. EHLICH MD
ARTHUR H. ESKEW
MICHAEL A. ETZEL
FRANK J. FASANO
JAMES C.W. FINLEY
JENNIFER E. FINLEY
MICHAEL S. FLYNN
PAT A. FOX
MICHAEL A. FREIBERGER
HDWARD P. FRITZ
JDHN C. GALANIS
MATTHEW D. GIBB MD
JAMES J. GIBBONS MD
ZDE M. GDECKELER MD
CARY J. GOEPFERT
MARK I. GDLDEN
MARGARET J. GDLDENHERSH MD
JAMES N. GRACE
DAVID L. GRIFFITH
BRUCE V. GRDNKIEWICZ
HAUW T. HAN
DAVID A. HANSEN
ARLEN D. HANSSEN
JACQUELINE G. HARVEY
EDWARD H. HAUSLADEN
JEFFREY S. HERMAN
KENT A. HICKEY
MARTIN D. HDFFMAN
RICHARD W. ILLES
STEVEN M. JAEGER
LAURA M. JARMOC
KAREN A. JOHNSDN
STEVEN J. JUDGE
JAMES G. JULIN MD
JEFFREY S. KANEL
STEPHEN P. KAPADN
WAYNE S. KARAKI
ARTHUR F. KAVANAUGH
STEPHEN L. KEITH
JDHN M. KELSO
MARK D. KING
JDHN P. KINSELLA MD
DANIEL G. KDHM
VIVIAN A. KOMINDS
DAN J. KDPACZ
DAVID N. KROJANKER
JDELLE M. LAMBERT
MARY G. LANGDON
LDRRAINE LEE
GEORGE A. LODOLY
PRISCILLA E. LONG
W. STEVEN LDNG
GARY A. MAASSEN
LINDA J. MAC DOUGALL
CATHERINE A. MADISON
CDRNELIUS C. MAHER
MICHAEL G. MALDN
PAUL C. MARUT
STEVEN L. MASKIN
MARY T. MC CLUSKEY
TIMDTHY S. MC CDMAS
WILLIAM F. MC GANN
JOHN C. MEYER
WILLIAM J. MEYER
JULE P. MILLER
RENEE L. MDHRMANN
MARK MOLLOY
DAVID P. MDONEY
JDHN K. MORAN
RICHARD G. MRAD
KARL J. MUELLER
KENNETH G. MURPHY
THDMAS D. MYLES
STEPHEN J. NEU
JDSEPH E. NDDNAN
MARK R. NYREEN
CHARLES E. D'NEILL
CATHERINE A. DDELL
ANN B. OGLESBY
JDSEPH M. DJILE
DAVID A. DRSINELLI
JDSEPH V. DTTEN
JOE M. PAGE
MICHAEL J. PALAZZDLD
RICHARD L. PARKER
VANESSA T. PERD
LAURA J. PETERSEN
ANNE M. PICHE
DOUGLAS A. POHL MD
WAYNE V. POLEK
DOUGLAS J. PRAUS
CHARLES J. PRUCHND
STEVEN M. RADEL
JDHN W. RAGSDALE
JAMES P. RICE
KATHYANN ROBERTI-KIEPURA
DAVID B. ROBSON MD
LESTER R. SAUVAGE
DAGMAR A. SCHNADER
J. MICHAEL SCHNEIDER MD
KENNETH O. SCHDWENGERDT
EVELYNE G. SCHUETZ
KARL W. SCHULTZ
DANIEL J. SCHWARZE
DANIEL J. SCDDARY
RDBERT D. SEELIG
BECKY R. SHELTDN
BRUCE E. SHEVLIN
SUSAN SHUTT
LDUIS W. SIEBEN
C. JEFFREY SIPPEL
CHARLES L. SDRENSDN
THOMAS SPIRD
JAMES L. STEWART
MARK J. STOUT
DAVID W. STREGE
RICHARD W. SUDA
LYNN S. SUDDUTH
BARRY R. SUNDLAND
KERRY K. SWINDLE MD
W. SHERMAN TURNAGE
ERICA L. UPPSTRDM MD
DONALD D. VAN FDSSAN
DAVID F. WALLACE
JAMES J. WALSH
DANIEL E. WEAKLY
PATRICIA A. WEBSTER
MARTIN E. WEINAND
CAROLINE A. WERNER
DAVID J. WESTRICH
WILLIAM L. WHITE
KAREN M. WICKLINE
RDBERT G. WIENCEK
KAREN K. WIES
WILLIAM J. WILL
JOHN T. WITTE
RDBERT J. ZEHR
ANN ZILLIOX MD

218—UNIVERSITY OF MISSOURI-COLUMBIA

J. BRUCE ABELE
MERCEDES C. AMADO
RAYMOND L. BANDY
JOHN M. BEARD
JOHN D. BECKER
DAVID D. BENAGE
STEVEN E. BENNER
MARY BETH BENTON
EDWARD W. BERRY
GREG A. BLISS
MICHAEL F. BOLAND
E. STEPHEN BOLESTA
DOUGLAS E. BDRG
MARK A. BDWLES
JAMES BOYD
JAMES E. BRADLEY
WARREN M. BREITE
THOMAS L. CARLISLE
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1983-1984 Policy Manual of the Missouri State Medical Association

This manual shall be a guide for MSMA members to the stand taken by the House of Delegates of the Missouri State Medical Association on issues involving Association policy.

The manual will be updated and revised according to House actions. The date in parentheses following each policy statement denotes the year it was adopted by the House.

Abortion

An abortion should be considered illegal if performed by anyone other than a licensed physician in a place other than a licensed hospital. (1970)

Acupuncture

The MSMA urges the Missouri State Board of Registration for the Healing Arts to utilize such legal and statutory powers as may be available to declare that the principles apparently involved in the practice of acupuncture and shiatsu, if found to be scientifically valid and medically beneficial would fall under the definition of the practice of medicine. (1973)

Alcoholism — Adjunctive Treatment

The MSMA supports the use of the adjunctive treatment resources of Alcoholics Anonymous, Al-Anon, Ala-Teen and the National Council of Alcoholism local affiliate by physicians in treating patients. (1979)

Alcoholism — Pharmacy Liaison

The MSMA supports a closer cooperation between physicians and pharmacists in a public education program regarding the problem of abuse of legally prescribed drugs and alcohol. The professional education of physicians and pharmacists should include courses in these areas. (1979)

Alcoholism — Public Education

A uniform policy regarding alcohol and drug abuse education in schools is supported. In-depth education should be provided to Driver Education classes regarding drug and alcohol abuse as related to traffic safety. (1979)

Amphetamines — Use

The MSMA asks its members to restrict their use of amphetamines and other stimulant drugs to the treatment of specific, well-recognized medical indications such as narcolepsy, hyperkinesia, mild depression and starter doses for obesity. (1971)

Armed Services

The MSMA encourages the Department of Defense to take steps to attract physicians to serve in the Armed Forces Reserve. Physicians should be utilized according to their capabilities and training and compensated appropriately for their time. (1979)

Board of Healing Arts

The State Board of Healing Arts should be provided with a wide range of discipline powers including requiring errant doctors to seek counseling or additional education. Also, every state should be informed when any doctor has his license suspended, revoked or is placed on probation. (1976)

The MSMA opposes any legislation which would dilute the licensing power of the State Board of Registration for the Healing Arts to license those physicians of good ethical and moral character. (1975)

Cancer — Reporting

MSMA supports efforts to require hospitals to report to the state all malignant neoplasms with the exclusion of non-melanomatous cutaneous malignancies. This statistical data is necessary to determine relationships between cancer control efforts in the state. (1982)

Certificate-of-Need

Any Certificate-of-Need law in Missouri should completely exempt private physicians and their offices from provisions of the legislation and contain a dollar limit of at least $500,000 before a Certificate is required in remodeling or constructing of health care facilities. (1976)

CHAMPUS

The MSMA recommends that CHAMPUS discontinue the use of nonphysician health care providers due to a lack of documentation of cost-effectiveness and the resulting lower standard of health care for patients. (1981)

Chemotherapeutic Costs

The MSMA should sponsor appropriate legislation that would make mandatory the offering of insurance coverage for reimbursement of chemotherapeutic agents, particularly on an outpatient basis. (1977)

Chiropractic Policy

The MSMA is unaware of any scientific evidence that proves that spinal manipulation and adjustment are appropriate treatment for such health conditions as hypertension, heart disease, stroke, cancer, diabetes and infections. Therefore, the MSMA will continue to warn the public of the health hazards of entrusting the treatment of such conditions to practitioners who maintain that all disease is caused by the misalignment of the spinal vertebrae and can be cured by manual manipulation and adjustment of the spine.

A physician may refer a patient for diagnostic or therapeutic services to another physician, licensed limited practitioner or any other licensed provider of health care services whenever the physician feels that these services will benefit the patient. As in the case with physician referrals, limited practitioner referrals should be based on their individual competence and ability to perform service to the patient.

The MSMA also supports the right of every physician to choose whom he or she will accept as patients and also exercise his or her choice by the terms of contractual agreements with other physicians, medical groups, hospitals or other institutions. (1981)

CME Accreditation

The MSMA supports the concept that continuing medical education accrediting should be conducted at the state level with the AMA as the only CME accrediting body. (1980)

Community Professional Directories

It is not unethical for a physician to authorize the listing of his name and practice in a directory for professional or lay use which is intended to list all physicians in the community on a uniform and non-discriminatory basis. The listing shall not include any self-aggrandizing statement or qualitative judgment regarding the physician's skills or competence. The *American Medical Directory* provides an example of the kind of information that may be properly listed in national as well as community directories for health service personnel. Likewise, specialities or specialty practices used in the *American Medical Directory* should set the pattern for specialty designations. (1975)

Confidentiality — Medical Records

The MSMA encourages the enactment of legislation which would fully protect the confidentiality of medical records and of professional or peer review activities which are based on review and evaluation of such records. (1978)

Confidentiality — Missouri Health Data Corporation

Missouri physicians strongly encourage the MHDC Board of Directors to retain control of their confidential information. (1982)

Cost Effectiveness

The MSMA encourages individual physicians to help moderate increases in medical care costs by avoiding over-utilization and by using appropriate restraints to keep fee increases more in line with the annual cost of living increases. The Association endorses the Voluntary Effort to restrain increases in hospital costs. (1978)

Death — Definition

A person shall be considered dead if in the announced opinion of a physician, based on ordinary standards of medical practice, he has experienced an irreversible cessation of spontaneous respiratory and circulatory functions. In the event that artificial means of support preclude a determination that these functions have ceased, a person shall be considered dead if in the announced opinion of a physician, based on ordinary standards of medical practice, he has experienced an irreversible cessation of spontaneous brain functions. Death shall have occurred at the time when the relevant functions ceased. (1976)

Dioxin

The MSMA supports an active campaign to bring accurate information on dioxin before the public to prevent irrational reaction and possibly unjustified public fright and to prevent dissemination of possible erroneous information until such time as epidemiological studies have been completed. (1983)

Drugs — Abuse of

The MSMA supports educational programs for junior high school students that will emphasize the hazards of drug abuse. (1982)

Drugs — Generic Prescribing

The MSMA opposes governmental interference into the practice of medicine through mandated generic prescribing of drugs. (1976)

Drugs — Use of Combination of

The Federal Food and Drug Administration should carefully study the prescribing habits of physicians before discontinuing a combination of drugs packaged together. (1974)

Drunk Drivers

The MSMA agrees to cooperate with the Legislature or proper agencies to remedy the dangerous problem of drunk drivers. (1974)

Education — Loans

MSMA supports continued federal and state subsidized, low interest loan programs for medical students, with properly enforced repayment. (1982)

Education — Patient

The MSMA adopts the following guidelines for third party reimbursement for patient education:

1. The goal of patient education programs shall be to improve health and the delivery of health care services through cooperative efforts of informed patients and health professionals.
2. Patient education programs shall be provided under the guidance of an educational committee comprised of members of the health professions, and administration, and consumers.
3. Patient education committees will be responsible for the establishment, maintenance, and evaluation of all patient education programs.
4. Patient education services shall consist of planned efforts, with stated goals and objectives, based upon identifiable needs of patients and the resources of the health professionals.
5. Patient education services shall be provided under the direction of a practicing physician and a trained educator and must be appropriate to the immediate health needs of the patient.
6. Participation in such programs shall be by prescription of a practicing physician and shall be documented in the patient's chart. (1975)

Education — School Health

Factual, academically founded courses should be developed and implemented by the Missouri Department of Education to teach human physiology and pathophysiology at the elementary and secondary levels of the school system. (1974)

County medical societies are urged to work with local school districts to assist in providing comprehensive health education programs and the state colleges of Missouri are urged to prepare qualified health instructors trained to integrate health concepts into all the courses they teach. (1972)

Electroconvulsive Therapy

The Association supports the deletion of requirements that legal guardians obtain court orders authorizing electroconvulsive therapy for patients that have been declared incompetent. (1983)

Fireworks

The MSMA supports a ban on the sale of fireworks in Missouri. (1976)

Fluoridation

The MSMA, realizing the medical importance of natural occurring fluorine taken in proper concentration into the human body, recommends the adding of fluorine to all drinking water systems in Missouri in the concentration of one part per million. (1972)

Foreign Medical Graduates

MSMA Council and committees are encouraged to consult with Foreign Medical Graduate groups when subjects of interest come up. All physicians, Foreign Medical Graduates included, are encouraged to participate in their component societies, MSMA and AMA. (1982)

Handicapped

MSMA is involved in seeking positive ways to encourage training and rehabilitation for disabled persons. MSMA wants to work with existing organizations to remove physical and emotional barriers that prevent disabled people from working. (1982)

Health Systems Agencies

The MSMA supports a program of voluntary, locally based health planning designed to address particular local and regional needs and favors legislation repealing the National Health Planning Act. (1981)

Home Health Care

The concept of home health care and visiting nurses care as a proper and economical way to bring quality health care to Missouri citizens not requiring more expensive and acute care is favored by the Association. (1972)

Hospice

The MSMA supports legislation to encourage the establishment of physician-directed hospice care. (1978)

Hospital — Preadmission Certification

The MSMA will continue to oppose implementation of hospital preadmission certification. (1974)

Immunization

MSMA supports legislation which would establish strong immunization requirements for preschool children. (1982)

Insurance — Charge for Extra Claim Forms

Physicians should feel free to charge for the additional service of filing more than one insurance claim form, especially if a different claim form is required rather than a photocopy of the original claim form. (1973)

Insurance — Maternity Coverage

The MSMA supports inclusion in all insurance policies for those in childbearing years of a clause providing complete maternity coverage.

In order to provide continuity of coverage, the following eligibility period should be written into all insurance policies concerning benefits for obstetric care: "A pregnancy which begins while the insurance is in force should be covered until the termination of the puerperium and until the newborn infant is discharged from the hospital to home care." (1974)

Insurance — Psychiatric Illnesses

The MSMA recommends that the State Commissioner on Insurance requires that all health and accident insurance policies sold in Missouri provide coverage for psychiatric illnesses equivalent to benefits for other medical and physical illnesses. (1978)

Insurance — Terminology

MSMA encourages local insurance carriers to be careful about using literature containing the wording "usual, customary and reasonable" describing insurance benefits paid. This leads some patients to believe physicians' charges are "unreasonable." MSMA also encourages physicians to include in their patient information materials an explanation as to why the amount billed may sometimes be more than the insurance benefit paid. (1982)

Laboratory — Collecting Fee

The MSMA supports payment under Medicaid to the physician for his service in collecting a specimen used for tests performed in an outside laboratory. (1977)

Licensing — Felon

As a general rule, the MSMA opposes the granting of a license to practice medicine to any physician who has been convicted of a felony. (1973)

Licensing — FMGs

The MSMA endorses the policy of accepting the "Fifth Pathway" for physician licensure in Missouri. (1975)

Licensure — Federal

The MSMA opposes any moves to require Federal licensure of health manpower. (1976)

Long-Term Health Policies

MSMA supports AMA policy which asks all physicians to voluntarily do their part in helping the country to economically recover. (1982)

Malpractice — Countersuits

Any Missouri physician found not to be negligent in a malpractice suit shall have the assistance of the MSMA in determining if there exists a reasonable basis for the physician to commence an action for malicious prosecution arising out of such case. (1976)

Medicaid Program

The MSMA no longer endorses the Title XIX Medicaid Program because of the unreasonably low level of reimbursement for physicians' services. (1978)

Medical Examiner System

The establishment of the county medical examiner system as a replacement for the county coroner system is strongly recommended. (1971)

Motorcycle Head Gear

The MSMA urges all motorcyclists to wear protective head gear (helmets) to prevent death and disability. (1977)

MSMF Loans

The Missouri State Medical Foundation requires membership in their state medical association for those medical students eligible for membership and receiving financial assistance from the Foundation. (1980)

National Health Insurance

Any system of national health insurance must be designed with the consultation and aid of practicing physicians with the welfare of the patient as the guiding principle. A mechanism should be provided so the patient realizes the value of medical services to the point of real participation in the payment for those services. (1974)

The MSMA endorses the American Medical Association's bill as the national health insurance plan best suited to maintaining the high quality of American medicine. (1976)

Nursing Education

The MSMA supports all present forms of nursing education as being essential to meeting the health care needs of the state and local community. (1980)

Nurse Practitioners

The MSMA supports the doctrine that physicians retain control of medical care and will challenge any person who is practicing medicine without a license, in the courts of law if necessary. (1978)

Optometrists — Drugs

The Association opposes the expansion of the Missouri Optometric Act which would allow the use of drugs in the practice of optometry. (1977)

Osteopaths — Association With

Medical doctors may consult or associate with Doctors of Osteopathy and participate in post-graduate education specifically designed for their needs. (1965)

Osteopaths — Membership

Both local and state medical societies may accept for full membership osteopathic physicians who are licensed to practice medicine in Missouri. (1970)

Physician's Assistants

The MSMA opposes state licensure or certification of additional health care personnel because there is no reason to accept a second class (second level) of medicine. (1979)

Political Process

The Association encourages physicians to become "Key Contacts," thereby increasing medicine's role in influencing actiosn taken by the state General Assembly on issues of importance to our patients and our profession. (1983)

Primary Medical Care

Primary medical care shall be defined as only that care given by a licensed graduate of a medical or osteopathic school. (1977)

PSRO

The MSMA will work to insure that patient care is of a high quality, appropriate duration and is rendered in appropriate setting at a reasonable cost. The MSMA supports the elimination of all government directed peer review programs, including PSRO. (1981)

The MSMA supports requiring compatible peer review of the medical services offered in public and private medical facilities and in all governmental health care facilities. (1983)

Seat Belts

The MSMA favors passage of state laws requiring use of seat belts in motor vehicles. (1974)

Second Opinions in Surgery

The MSMA, while realizing the value of consultation, opposes the concept of mandatory second opinions and supports the position that when second or more opinions are mandated by any party that this party is responsible for any consultation fee and the choice of consultant is the responsibility of the patient and/or the attending physician. (1978)

Smoking

The MSMA supports legislation directed at designating non-smoking areas in public places and prohibits smoking at all MSMA House of Delegates meetings and scientific sessions held in conjunction with these meetings. (1981)

The MSMA actively supports legislation prohibiting cigarette smoking in public indoor areas. (1983)

Third Party Reimbursement

The MSMA urges third party payers, including the Division of Family Services, to establish economic incentives to physicians to encourage more in-office care. This would include payments for professional fees, laboratory and x-ray services, supplies and other ancillary services performed in a physician's office. (1982)

The MSMA supports equal reimbursement for equal professional services provided by a physician, regardless of his geographic location. (1982)

Unpaid Accounts — Interest

It is not in the best interest of the public or the profession to charge interest on an unpaid bill or note for professional services not paid within a prescribed period of time nor is it proper to charge a patient a flat collection fee if it becomes necessary to refer the account to an agency for collection.

It is not improper, however, for a physician to add a service charge, equal to the actual cost of rebilling, on accounts not paid within a reasonable time. Patients must be notified in advance about the existence of this practice. (1975)

Utilization Review — Participation

The MSMA supports the right of individual physicians voluntarily to elect not to participate in governmental review programs which they believe conflict with the principles of good medical practice when they have no contractual or ethical obligation to such program. (1976)

Utilization Review — Reimbursement

In those hospitals which conduct utilization review of any inpatient care, compensation of physicians for such review is a legitimate expense. The cost of such review should be included in hospital rates and reimbursable costs regardless of the source of payment. (1976)

If you have questions on these or other policy matters, please contact the Missouri State Medical Association, Box 1028, Jefferson City, Mo. 65102. Tel. — (314) 636-5151.

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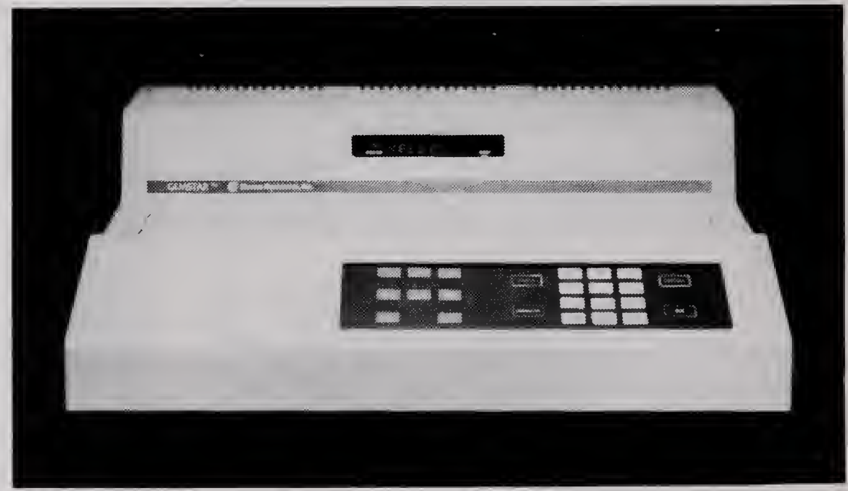

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TEFRA and DRGs

These Initials Will Drastically Change Health Care and Your Practice

I. INTRODUCTION

Laws enacted by the Congress in 1982 and 1983 have great impact on the American people and their health care system. Even greater changes are imposed on physicians and hospitals.

The Missouri State Medical Association (MSMA), Missouri Association of Osteopathic Physicians and Surgeons (MAOPS) and Missouri Hospital Association (MHA), as the professional associations which represent and serve the physicians and hospitals in Missouri, are deeply concerned about patients — people that need health care. The philosophy that health care is a right is being modified by the realism of limited financial resources. As a result, the health care system is undergoing radical change.

II. TAX EQUITY AND FISCAL RESPONSIBILITY ACT OF 1982

In 1982, the Tax Equity and Fiscal Responsibility Act (TEFRA) was signed into law. Designed to reduce the rate of increase in Medicare expenditures, TEFRA reduced payments to hospitals and reversed the manner in which hospitals are paid. Hospital-based physicians are subjected to new payment controls and Medicare payments to all physicians using hospital emergency rooms and outpatient departments are reduced by 40% for nonemergency patients.

Flat Rate Payment per Inpatient Case

Effective for hospital fiscal years beginning on or after Oct. 1, 1982, Medicare pays hospitals a single, fixed amount for each Medicare inpatient case, irrespective of length of stay or severity of the patient's condition.

Designed to save billions of dollars annually, the flat rate was expected to change hospital and physician behavior. It was designed to shrink the capacity of the system (capital, technology and human resources) in hospitals and force physicians to reduce utilization of hospital services and shorten lengths of patient stays.

The fixed per-case payment system's major contribution is hospital-physician conflict. While hospitals must react to survival-threatening Medicare cuts, physicians are torn by high quality health care standards, cost pressures, patient demands and threats of malpractice suits. The hospital is caught in the middle — trying to change physician practices to live within the flat-rate payments from Medicare.

LIMITS ON PAYMENT-PER-CASE

Originally passed in 1972 to prevent luxurious and extravagant care, Section 223 limits were changed by TEFRA to establish caps on Medicare payments for inpatient cases.

Hospitals were placed into a matrix for comparison of costs per inpatient case. Ceilings for Medicare payments were established at 120% of the mean in 1983, 115% of the mean in 1984 and 110% of the mean in 1985. By 1985, the annual "savings" to Medicare from the limits would be $5 billion.

By definition, a minority of the hospitals bear all of the losses due to the cap. The payment-per-case limits were based on the fallacious theory that higher cost hospitals are inefficient and wasteful.

Hospital-Based Physicians

In an attempt to reduce Medicare payments to hospital-compensated physicians, TEFRA created limits on payments to physicians for Part B (services personally rendered to individual patients) and capped the amount of compensation that hospitals could pay physicians for Part A services.

The regulations anticipate the elimination of combined billing, thereby forcing hospital-compensated physicians into a screen-controlled payment system.

The rules generally are effective for physician services furnished on or after Oct. 1, 1983.

Physicians compensated by hospitals, (radiologists, pathologists, anesthesiologists, etc.) are covered by the regulation. Numerous special limits are added to Part A and Part B restrictions, such as limiting radiologists to 40% of reasonable charges for services in a hospital that could be performed in an office setting.

Hospital compensation to physicians for emergency room (ER) supervisory and administrative services would be subject to the limit. HCFA now has distinguished between "standby" and "availability" emergency services. Availability service is defined as one in which physician services "are general services related to expectations of need by unspecified patients, such as provided by emergency rooms. Availability services are reimbursable on a reasonable cost basis, but only when incurred in connection with an approved emergency room agreement. Standby services are defined to indicate that a physician is present during the course of a patient's treatment. Standby costs are reimbursable on a reasonable charge basis.

Outpatient Physician Services

TEFRA established the principle that physicians should receive lower payments for nonemergency care rendered to Medicare beneficiaries in hospital outpatient or emergency departments. The theory for the reduced payments was that overhead office expense (assumed to be 40%) for the physician didn't exist when the patient was treated in a hospital setting.

Other Cuts

TEFRA contained many other reductions in payments to hospitals — elimination of the nursing service differential, disallowance of charity care (even though the federal government requires Hill-Burton hospitals to provide set levels of uncompensated care), disallowance of costs incurred by a hospital in opposing a union, and the September 1983 and 1984 periodic interim payments (PIPs) are delayed until October (creating cash flow problems for hospitals).

III. Social Security Amendments of 1983

In March, 1983, Congress passed a sweeping bill to rescue Social Security, extend unemployment benefits and establish a prospective payment plan for Medicare inpatients based on diagnostic-related groups (DRGs).

Medicare Prospective Payment

Generally speaking, the new Medicare DRG payment system becomes effective for hospital fiscal years beginning on or after Oct. 1, 1983. The statute:

—repeals TEFRA provisions on the per-case flat rate methodology and Section 223 limits for most hospitals, beginning with the hospital's own fiscal year starting on or after Oct. 1, 1983;

—sets single national urban and rural DRG rates for hospital fiscal years beginning on or after Oct. 1, 1986;

—establishes area wage adjustments in the payment system;

—establishes a three-year phase-in period with a blending of hospital-specific average per-case payments, rates from nine Bureau of the Census regions (urban and rural DRGs) and national rates (urban and rural DRGs) as follows:

- In 1984 (hospital fiscal years beginning on or after Oct. 1, 1983), 75% of the Medicare payment will be institution-specific (that is, average per-case costs), based on 1982 costs rolled forward by the hospital market basket index plus 1% for technology and intensity; 25% of the payment will be based on regional DRG rates.
- In 1985, 50% of the payment will be institution-specific and 50% will be DRG-based. Of the DRG portion, 75% will be based on regional rates and 25% will be based on national rates.
- In 1986, 25% will be institution-specific and 75% will be DRG-determined. The DRG portion will be 50% regional and 50% national rates.
- Note: The institution-specific portion of the payment during the phase-in period will be case mix adjusted flat-rate-per-case while the DRG portion will be different for each DRG.

—passes through (on a Medicare-approved cost basis) capital-related expenses until no later than Oct. 1, 1986, when capital costs will no longer be excluded from the national urban and rural DRG rates. Congressional action will be required to incorporate capital costs into the DRG rates;

—reduces the return on equity for investor-owned hospitals through Sept. 30, 1986, from one and one-half times the rate of return on the Social Security trust fund to one times the rate of return on the fund (effective for hospital fiscal years beginning on or after the date of enactment);

—provides for a study and report to Congress within 18 months on methods for including capital-related costs and return on equity in DRG rates;

—requires states to have a Section 1122 capital review program in effect Oct. 1, 1986, unless Congress has acted to include capital-related costs in the prospective payment prices; exempts HMOs and comprehensive medical plans (CMPs), and requires hospitals to submit their capital expenditure plans to the 1122 agencies if the 1122 program is mandated;

—provides that, for sole community providers, the 75%-25% first-year phase-in formula shall apply throughout the three-year phase-in period, and requires the Secretary to make adjustments in payments for sole community providers whose volume decreases by 5% or more from one year to the next;

—requires the Secretary to make discretionary adjustments for national and regional referral centers;

—passes through direct teaching costs (medical and possibly nursing education programs) and doubles the current allowance for indirect costs in teaching hospitals;

—sets the amount of money to be paid for outliers (atypical cases) between 5% and 6% of total payments, recognizing that outliers are caused by two factors — cost and length of stay;

—requires an adjustment for increased costs incurred by hospitals that are required to participate in the Social Security retirement system as of Jan. 1, 1984;

—requires hospitals to contract with the HHS-approved peer review organization (PRO) in their area after Oct. 1, 1983, if such an organization exists, and to contract with the PRO or other HHS-approved organization after Oct. 1, 1984, as a condition for receiving Medicare payments; payments to the PRO will be made directly by HHS from the Medicare hospital trust fund, bypassing the annual appropriations process;

—makes HHS establish adjustments for public and other hospitals serving a disproportionate number of low income and Medicare patients;

—prohibits administrative or judicial review of the adequacy of the amount of prospective payments or the methodology of the DRG payment system, except hospitals may appeal cost outliers under certain conditions;

—exempts psychiatric, rehabilitation, long-term care and children's hospitals (but subjects them to the target rate methodology without Section 223 limits, and includes penalties and bonuses) but requires HHS to report to Congress on ways to bring the specialty hospitals into a prospective payment plan;

—exempts psychiatric and rehabilitation units (distinct parts) of general hospitals;

—permits health maintenance organizations (HMOs) to negotiate lower payments to hospitals;

—prohibits hospitals from unbundling services (otherwise, a reduction in the payment will be imposed) unless previous practices were in place so extensively that hospital stability and effective patient care would be jeopardized if bundling was imposed;

—delays until Oct. 1, 1983, the authority of HHS to establish a single skilled nursing facility (SNF) payment rate, thereby allowing a differential for hospital-based SNFs, and mandate a study and a report on a single rate to Congress by Dec. 31, 1983;

—extends the use of Medicare cost reports through 1988;

—requires HHS to study and report to Congress in 1985 recommendations on the advisability and feasibility, as well as legislative proposals for paying physicians on a prospective payment basis for hospital inpatients;

—establishes a commission appointed by the Congressional Office of Technology Assessment (OTA) to advise the Secretary on the amount of annual increase in the prospective payment, for fiscal years beginning Oct. 1, 1986, as well as recalibration and updating of the DRGs; and

—authorizes numerous studies, including HHS acceptance of state payment systems which are based on other than DRGs, the impact of the new DRG plan on beneficiaries and providers, the impact on uncompensated care costs, the impact on all payers, alternatives for paying medical/teaching institutions in non-urban areas, the feasibility of phasing out separate urban and rural rates, the feasibility of bringing all hospitals into a prospective payment system, a review of cost-shifting which results from the plan, appropriateness of factors used in determining outliers, impact of the plan on admissions, making available hospital cost information, coordination of Parts A and B, and future treatment of sole community providers.

Uncertainties may exist for several months as HHS develops regulations to implement prospective payment. Several things are clear — no more money will be spent on hospital inpatient care under prospective payment than was authorized by TEFRA; the federal government is committed to changing the system for paying hospitals and physicians; health planning and peer review still are supported as ways to control capital expenditures, quality of care and utilization of services; and the government continues to ignore patient demand for hospital care in favor of imposing controls on hospitals and physicians.

IV. SUMMARY

Physicians and hospitals in Missouri support cost effective, efficacious health care. Advances in technology, knowledge and public expectations have produced the world's best health care system in the United States. Success has been dramatic: life expectancy of 73 years; nationwide accessibility of health care services; space age medicine; new technology and lifesaving procedures.

These advancements have a price — higher expenditures for health care and greater patient demand. Some of the classic forces of a marketplace economic system are not present in health care, primarily because of third party payment programs, both public and private. Nevertheless, it is essential that future changes influence the demand as well as the supply side of the health care equation.

The horizon is hazy, but one thing is clear — physicians and hospitals must work together during the short term and promote long-term, responsible alternatives that offer constructive incentives that affect users and providers of health care services.

The Missouri State Medical Association, Missouri Association of Osteopathic Physicians and Surgeons and Missouri Hospital Association are committed to the values of high quality health care and cost effectiveness. The Associations will continue to assist physicians and hospitals in achieving these goals.

Group Insurance Plans Available to MSMA Members

For Details of Each Plan Contact the Administrator

TYPE OF COVERAGE	UNDERWRITER	ADMINISTRATOR
Professional Liability Insurance. Claim coverage available from $100,000/$300,000 to $1/$2 million. Endorsed by MSMA.	Missouri Medical Insurance Company 100 North Broadway, Suite 1650 St. Louis, MO 63102 Telephone: 800-392-2617	
Personal Disability Income. Benefits available up to $3,000 per month. Lifetime accident/to age 65 sickness coverage. Residual disability benefit available with cost of living increase provision. An individual contract with special renewal guarantees.	Commercial Insurance Company of Newark, NJ	Fred S. James & Co. of Missouri, Inc. Western Missouri 2420 Pershing Road Kansas City, MO 64108 Tel.: (816) 842-6670 Eastern Missouri 231 S. Bemiston — Suite 1000 Clayton, MO 63105 Tel.: (314) 863-7777
Overhead Expense Insurance. Benefits up to $10,000 per month. Payment begins after 30 days disability and continues up to 2 years.	Commercial Insurance Company of Newark, NJ	Fred S. James & Co. of Missouri, Inc. (see above)
Accidental Death and Dismemberment. Up to $150,000 coverage. May include spouse, children and employees.	Commercial Insurance Company of Newark, NJ	Fred S. James & Co. of Missouri, Inc. (see above)
Hospital Indemnity Plan. $20 to $100 per day while hospitalized in addition to any other insurance. Family coverage available.	Commercial Insurance Company of Newark, NJ	Fred S. James & Co. of Missouri, Inc. (see above)
Term Life Plan. Members and employees under age 60 may enroll for amounts from $250,000. Spouses coverage, one half amount of member or employee, up to $100,000. Dependent children may be insured for $2,500.	Mutual Life Insurance Company of New York	Forrest T. Jones & Co., Inc. 3130 Broadway P.O. Box 131 Kansas City, MO 64141 Tel.: 1-800-892-7272
Major Medical Plan. Pays up to a lifetime of $500,000. Deductibles from $200-$1,000. Coverage available to members, employees and dependents.	Mutual Life Insurance Company of New York	Forrest T. Jones & Co., Inc. 3130 Broadway P.O. Box 131 Kansas City, MO 64141 Tel.: 1-800-892-7272

Missouri Voluntary Health Agencies and Organizations

In some instances, patients of MSMA members are eligible to receive assistance from various Voluntary Health Organizations in the state.

Assistance may be in the form of free or subsidized special equipment, rehabilitation training, counseling, specialized care and information and many other areas.

In an effort to assist MSMA members in attaining assistance for their patients, the following annually updated list of Voluntary Health Organizations has been compiled. In some cases, a statewide organization is listed. In instances in which an organization is limited to a certain portion of the state, several organizations may be listed under one heading.

ARTHRITIS

Arthritis Foundation, Eastern Missouri Chapter
4144 Lindell Blvd., St. Louis 63108
(314) 533-1324

Arthritis Foundation, Greater Kansas City-Western Missouri Chapter
8301 State Line #117, Kansas City 64114
(816) 361-7002

1. Literature for arthritis patients.
2. Public and professional education programs.
3. Newsletter.
4. Patient Clubs.

Arthritis Institute
2727 Main, Kansas City 64108
(816) 221-5383

1. Literature for arthritis patients.
2. Public and professional education programs.
3. Newsletter.
4. Support groups.
5. Diagnosis and treatment of rheumatic diseases.

BIRTH DEFECTS

National Foundation March of Dimes
113 Hwy. 63 South, Columbia 65201
(314) 449-0573

1. Perinatal seminars for physicians and nurses held three times per month across the state.
2. Perinatal reprint series, articles related to the improvement of the outcome of pregnancy.
3. Limited patient aid support on chapter level.
4. Educational materials and audio-visuals for distribution through hospitals, clinics and offices to community and professionals.
5. Computer information service for providing physicians with diagnostic information.

BLOOD TRANSFUSION AND TISSUE BANK

Missouri/Illinois Regional Blood Services
4050 Lindell, St. Louis 63108

1. Provides blood, blood components, blood derivatives including serum albumin, antihemophilic factor, immune serum globulin to the eastern half of Missouri.
2. Provides medical consultative services, therapeutic apheresis and transfusion related research in broad areas.
3. Recruits tissues and organs for transplantation and provides bone and corneas for clinical use.

CANCER

American Cancer Society, Missouri Division, Inc.
P.O. Box 1066, 3322 American Ave., Jefferson City 65102
(314) 893-4800

1. Trained volunteer visitation of mastectomy, ostomy, and laryngectomy patients (with attending physician's permission).
2. Free loan of hospital beds, wheelchairs, commodes and other home health care equipment.
3. Non-sterile cancer dressings.
4. Limited transportation services to and from treatment centers.
5. Limited assistance in the purchase of ostomy supplies.
6. Limited payment for pain medication for cancer patients.
7. Educational materials and audiovisuals on cancer prevention, diagnosis and treatment for public and health professionals.
8. Seminars for health professionals to update their knowledge and role in cancer prevention, diagnosis and treatment.
9. Patient education and support groups.
10. Public Education:
    a. Programs for adults carried out in group settings or one-to-one basis, involving two-way communication and interaction through the work place, clubs, and organizations, homes and neighborhood centers, and other health agencies.
    b. Standard education programs for adults on one of the six priority sites of cancer (lung, colorectal, breast, uterine, oral, and skin) and assistance arranging programs on smoking cessation and breast self-examination.
    c. Youth program organized through schools (K-12) on health and science education and health behavior as it relates to cancer.

CEREBRAL PALSY

United Cerebral Palsy Association of Missouri, Inc.
P.O. Box 611, Columbia 65201
(314) 449-2934

1. Educational outreach to teach people about Cerebral Palsy and other disabilities.
2. Camping program held at Wonderland Camp at the Lake of the Ozarks for people with disabilities of all ages.
3. Governmental affairs to advocate for issues that will improve the quality of living for people with Cerebral Palsy and other developmental disabilities.
4. Resource/referral to guide people to services and activities needed.
5. Financial assistance for those with Cerebral Palsy and financial need. (Only when all other financial resources have been exhausted.)

Services are provided to people with disabilities through eight affiliates. Services may include:

Developmental Training
Diagnosis and Evaluation
Social Services
Special Education
Communication Skills
Adult Day Care
Recreational and Social Activities
Respite Care
Workshop Activities

CRIPPLED CHILDREN

Easter Seal Society for Crippled Children and Adults of Missouri
8124 Delmar Blvd., St. Louis 63130
(314) 726-0465

1. Coordinates provision of services to physically handicapped through Regional Offices.
2. Information and counseling on employment of resources.
3. Variety of services including equipment and appliances, preschool programs, camping and recreation, in some areas.
4. Financial assistance for purchase of equipment and therapy on casework basis.

CYSTIC FIBROSIS

Cystic Fibrosis Foundation, Gateway Chapter
7730 Carondelet, St. Louis 63105

Cystic Fibrosis Foundation, Heart of America Chapter
7920 Ward Parkway, Room 206, Kansas City 64114
(816) 363-5636

1. Sweat testing and evaluation at Cystic Fibrosis Centers located in St. Louis, Kansas City and Columbia.
2. Referral for drugs, laboratory work, x-rays, inhalation equipment and hospitalization.

DIABETES

American Diabetes Association, Heart of America Affiliate
616 East 63rd, Kansas City 64110
(816) 361-3361

American Diabetes Association, Missouri Regional Affiliate
Box 11, Columbia 65201
(314) 443-8611
American Diabetes Association, Greater St. Louis Affiliate
1790 S. Brentwood Blvd., St. Louis 63144
(314) 968-3196

1. Patient education classes and support groups.
2. Professional and allied health education.
3. Summer camp for diabetic children.
4. Speakers bureau.
5. Bi-monthly magazine.
6. Literature, cookbooks available.
7. Professional referrals.
8. Fund diabetes research.

EPILEPSY

Epilepsy Federation of Greater St. Louis
4144 Lindell, Suite 200, St. Louis 63108
(314) 531-3900

Greater Kansas City Epilepsy League
4049 Pennsylvania, Suite 208, Kansas City 64111
(816) 531-1247

1. Discount drug program makes anti-convulsants available at cost.
2. Consultation and training programs available on individualized basis which include medical, pharmacological and psycho-social information.
3. Counseling program including individual, family, vocational and referral to other resources.
4. Prepared written pamphlets and other materials for patients, children and family members.
5. Film library.
6. Professional education and job placement.

GROWTH DISORDERS

Human Growth Foundation, Greater St. Louis Chapter
Box 15885, St. Louis 63114
(314) 429-6893

1. Counseling for families about growth disturbances.
2. Referral source for information regarding financial assistance and growth problems.
3. Assists National Pituitary Agency in collection of human pituitary glands.

HEART

American Heart Association, Missouri Affiliate, Inc.
P.O. Box Q, 105 E. Ash, Suite 2, Columbia 65205
(314) 442-3193

1. Sponsor for medical research.
2. Sponsor educational programs on cardiovascular

disease for all professionals.

3. Sponsor educational programs for public.
4. Assist in development of community service programs.
5. Referral for financial assistance or special services.

Hemophilia

Bi-State Hemophilia Association
P.O. Box 22246, St. Louis 63116
(314) 771-6080

1. Free summer camp for hemophiliac children.
2. New implementation of drop shipment of Factor 8 and Factor 9 for those on the state home care program.
3. Sponsor hemophilia clinic at Cardinal Glennon Hospital.

Kidney

National Kidney Foundation of Kansas and Western Missouri
4006 Central, Kansas City 64111
(816) 531-3760

Kidney Foundation of Eastern Missouri and Metro East
8135 Forsyth Blvd., St. Louis 63105
(314) 863-5858

1. Public and professional education.
2. Support research grants.
3. Patient and community services.
4. Source of referral for patients and families.
5. Endorse the "Gift of Life" Organ Donor Program.

Lung

American Lung Association of Eastern Missouri
411 North 7th, St. Louis 63101
(314) 241-1554

American Lung Association of Western Missouri
2007 Broadway, Kansas City 64108
(816) 842-5242

1. Health education films and materials aimed at prevention of lung disease.
2. Publications on treatment of lung diseases; seminars for physicians, nurses and allied health professionals on lung diseases.
3. Public quit smoking clinics.
4. Asthma education programs for children.
5. School health projects.
6. Support medical training and research.

Multiple Sclerosis

Multiple Sclerosis Society, Greater Kansas City Area Chapter
6501 Johnson Dr., Shawnee Mission, Kan. 66202
(913) 432-3926

Mid-Missouri Chapter
National Multiple Sclerosis Society
1201 Paquin G-2, Columbia 65201
(314) 875-6767 & 915 Olive St., Suite 815, St. Louis, 63101

1. Weekly MS clinic at Kansas University Medical Center.
2. Patient equipment pool (purchase and loan).
3. Counseling.
4. Home care course for family education.
5. Support groups for patients and families.
6. Referral to community resources.

Muscular Dystrophy

Muscular Dystrophy Association, Inc., Greater Ozarks Chapter
1087 E. Commercial, Springfield 65803
(417) 866-5117

Muscular Dystrophy Association, Inc., Missouri Valley Chapter
3435 Broadway, Suite L-9, Kansas City 64111
(816) 931-7750

Muscular Dystrophy Association, Central Missouri Chapter
914 Tandy, Suite 2, Columbia 65201
(314) 442-5154

Muscular Dystrophy Association
310 Broadway, 4th Floor
Cape Girardeau 63701
(314) 335-4400

Muscular Dystrophy Association, Inc., Mississippi Valley Chapter
1023 S. Big Bend Blvd., St. Louis 63117
(314) 644-2828

1. Free diagnostic testing for 40 neuromuscular disorders.
2. Payment for orthopedic appliances.
3. Payment for limited amount of physical and occupational therapy.
4. Payment for influenza inoculations.
5. Transportation assistance.
6. Free services supplied at outpatient clinics.
7. Genetic counseling.
8. Professional education.

Myasthenia Gravis

Myasthenia Gravis Foundation, Inc., Greater Kansas City Chapter
4949 Rockhill Rd., Kansas City 64110
(816) 276-8310

1. Outpatient clinic on referral from patient's physician for confirmation of diagnosis, consultation or patient maintenance.
2. Myasthenia gravis drug bank.
3. Professional and patient educational materials.
4. Free physician manual and nursing manual.
5. Professional educational seminar: Film and speaker provided.

Red Cross

American Red Cross, Missouri/Illinois Regional Blood Services
4050 Lindell Blvd., St. Louis 63108
(314) 658-2000

merican Red Cross, Greater Kansas City Chapter
3521 Broadway, Kansas City 64111
(816) 756-2365

1. Offers a number of courses to lay people, including "Preparation for Parenthood," "Multiple Sclerosis Home Care Course," "First Aid," "Cardiopulmonary Resuscitation" and "Health in the Home."
2. Vital Signs Module I and II provide a means of teaching lay persons to measure their own temperature, pulse, respiration rate and blood pressure.
3. Provides counseling and assistance to military families and veterans.

RETARDED CITIZENS

Association for Retarded Citizens/Missouri
P.O. Box 1705, 230 W. Dunklin, Jefferson City 65102
(314) 634-2220 Toll Free 1-800-392-0218

Barry-Lawrence ARC
Route 3, Box 136, Monett 65708
(417) 235-7669
Boone County ARC
1201 Subella, Columbia 65201
314-445-5159
Clay-Platte ARC
3615 N. College, Kansas City 64116
816-452-5969
Cole County ARC
1515 E. High St., Jefferson City 65101
314-635-4490
Gentry County ARC
Albany 64402
816-726-3896
Greene Country ARC
1031 E. Battlefield, Ste. 117, Springfield 65807
417-883-3442
Jackson County ARC
2918 Norwood, Independence 64052
314-461-6253
Joplin Area ARC
P.O. Box 1402, Joplin 64801
417-623-1899
Lake of the Ozarks ARC
Route 3, Lakeview Drive, Camdenton 65020
314-346-3172
Midland Empire ARC
615 Ashland Ave., St. Joseph 64506
816-232-9768
Moniteau County ARC
Jamestown Star Rt., California 65081
314-796-3216
Montgomery County ARC
P.O. Box 111, Montgomery City 63661
314-564-2925
St. Charles County ARC
P.O. Box 672, 321 Droste, St. Charles 63301
314-724-6216
Stoddard County ARC
P.O. Box 91, Dexter 63841
314-624-8525

1. Clearinghouse for information on mental retardation.
2. Referral services.
3. Professional and public information and consultation available.
4. Day care centers, recreational programs and parent counseling.

SUDDEN INFANT DEATH SYNDROME

St. Louis Regional Maternal and Child Health Council, Inc.
5600 Oakland Ave., Suite G-350A, St. Louis 63110
(314) 644-4100

1. Provides and coordinates free support services, including information and counseling, to families experiencing the death of an infant due to SIDS.
2. Distributes SIDS educational materials.
3. Provides education and training to health professionals and first responders to the death of an infant (police, firemen, ambulance paramedics, etc.).
4. Public information and community education.
5. Referrals to community resources.
6. Parent/peer counseling.
7. Supervises development of statewide support services for SIDS families.

For MSMA Impaired Physician Program Assistance

Call 314-636-5744

24-Hour Telephone Answering Service. Calls Are Confidential

Directory of Medical Specialty Organizations in Missouri

For the convenience of all MSMA members, the following is a list of medical specialty organizations in Missouri who responded to a request from MISSOURI MEDICINE for information regarding their officers and meeting time and place. This information will appear in MISSOURI MEDICINE twice yearly and will be updated again in the February, 1984 issue and the 1984-1985 Annual Directory and Membership Roster of this journal.

Any group not included below is invited to send this information to MISSOURI MEDICINE, P. O. Box 1028, Jefferson City, MO 65102.

MISSOURI STATE ALLERGY ASSOCIATION

President: T. Reed Maxson, M.D.*
Executive Secretary: Donald Wilson, MSMA, P. O. Box 1028, Jefferson City 65102
Time and Place: MSMA Annual Convention, St. Louis

MISSOURI SOCIETY OF ANESTHESIOLOGISTS

President: William J. Brian, M.D., 609 Cherry Street, Springfield 65806
Secretary: Bhaskara Ponnuru, M.D.*
Time and Place: MSMA Annual Convention, St. Louis

MISSOURI DERMATOLOGY SOCIETY

President: James A. Roller, M.D.*
Executive Secretary: Dan H. Young, 8000 Crescent Dr., Clayton 63105
Time and Place: MSMA Annual Convention, St. Louis

MISSOURI CHAPTER, AMERICAN COLLEGE OF EMERGENCY PHYSICIANS

President: Edward B. Kinports, Jr., M.D., 2400 Pershing Road, Suite 561, Kansas City 64108
Secretary: David M. Trantham, M.D., St. Francis Medical Center, St. Francis Drive, Cape Girardeau 63701
Time and Place: TBA

MISSOURI EAR, NOSE & THROAT ASSOCIATION

President: Joseph West, M.D.* (1983)
Keith LaFerriero, M.D. (1983-1985)
Secretary: Donald Joseph, M.D.*
Treasurer: William Davis, M.D.*
Time and Place: MSMA Annual Convention, St. Louis

MISSOURI ACADEMY OF FAMILY PHYSICIANS

President: David W. Hall, M.D.*
Secretary-Treasurer: J. Fred Fairchild, M.D.*
Time and Place: June 7-10, 1984, Tan-Tar-A, Osage Beach

MISSOURI SOCIETY OF INTERNAL MEDICINE

President: Peter G. Tuteur, M.D., Washington University School of Medicine, 660 S. Euclid, St. Louis 63100
Secretary-Treasurer: Stephen Hamburger, M.D.*
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COMPUTERS

What's Out There and What Can They Do for You?

By George S. Conomikes

At the 1983 Missouri State Medical Association Annual Convention, six of the exhibitors were computer companies. The pages of most medical and specialty journals also are bedecked with a wide array of computer alternatives.

Unlike medications promotions, which also appear in the pages and display booths of journals and meetings, the substances of computers are not easy to describe. But, most assuredly, the side effects of the wrong computer decision can be considerable.

With the majority of computers in the $50,000-plus category, the purchase of a computer is often the single largest dollar decision that a practitioner may make. In order to make the right decision, it is important first to know what is available in computers and to know what your needs are in a computer.

There are several major types of computer systems available to physicians. Four are outlined below.

1. SERVICE BUREAUS — BATCH PROCESSING

This is the most common mode of computerization. Your charge tickets are batched and delivered (by mail or carrier service) to the computerized service bureau. There, your data is keypunched into their computer. The service bureau provides the following services:

- Patient billing — monthly.
- Patient insurance forms — usually in conjunction with the patient bills.
- Patient status reports — weekly. Bi-weekly.
- Management reports — monthly.

Advantages: Are useful for low-volume users (less than 1,500 statements per month). No capital outlay. Generally costs 75¢ to $1.25 per statement, including insurance work and reports.

Disadvantages: Time-lag from time charge tickets leave your office until you have updated status on patients.

2. SERVICE BUREAUS — ON-LINE INTERACTIVE

This type of service entered the marketplace about 1975. In this situation, your practice has hardware on your premises linked by phone-line to the service bureau computer. Your hardware includes:

1. A keyboard — useful for making inquiries as well as typing in data.
2. A screen (actually a cathode ray tube — CRT — display) that displays stored data upon inquiry or shows data as you type it on the keyboard.
3. A printer (slow speed) that allows you to print an on-the-spot insurance form or a patient bill if needed.

The service bureau does all the billing and reports as listed above in "Batch Processing." Cost per active patient activity is about 50¢ per account, plus postage, but it includes statements, insurance forms, mailings and all reports.

Advantages: There is no time-lag in having current status on all patients. Your own typing of patient activities may be more accurate and allow you to catch errors faster than is the case with batch processing.

Disadvantages: Monthly cost for having the on-premises hardware is about $400-$500 plus monthly phone line charges of $60 and up. Usually not feasible for less than 1,000 to 1,500 statements per month of activity.

3. CONTRACT ACCOUNTS RECEIVABLE MANAGEMENT

This service is available primarily in large metropolitan areas. It essentially involves taking all the paperwork out of the medical office and processing it at the contractor's location. It is designed to provide all the financial paperwork described for batch processing and on-line interactive systems plus much of the following:

- Follow-up on accounts outstanding with third-party payors and patients.
- Accounts payable and payroll.
- Bookkeeping — posting to the general ledger.
- Training of personnel.
- Providing management counsel and advice to the physician(s).
- Patient business calls regarding statements.

Costs usually are in the range of 6% to 16% of practice collections; include all mailing and postage costs.

Advantages: Reduces personnel and paperwork at the practice. Patient business calls go directly to contractor, reducing phone traffic. Continuous management counsel. Savings on space for clerical personnel. No investment in hardware required. Fee is fixed and depends on practice volume.

Disadvantages: Is not suitable for small (two employees) practices with low volume. Only available in a few locales currently.

4. In-House Mainframe Computers

This is perhaps the biggest growth area in computers due to the decrease in the costs of micro and mini computers. It is now possible to purchase your own in-house computer, with a software package, for as little as $30,000. Other limited systems are available for even less.

This will provide all the services listed for online-batch-processing. However, all billing, insurance processing and production of reports is done at the practice.

Costs: In addition to the purchase price, there is a maintenance cost. This monthly charge is usually 1% of the combined hardware and software purchase price.

Advantages: Price and maintenance costs are fixed over the life of the hardware. Long-run cost savings possible made more attractive by possible added tax advantages.

Disadvantages: Up front costs, conversion, space and air-conditioning needs, training, paper inventory, machine noise, vendor survival.

A physician considering the purchase of a computer should carefully screen computer suppliers and vendors. The first question is, "Who should do the investigating of computer firms?" The investigating should probably be done on three levels.

1. Physician Level

Physicians should check out vendors by talking with their physician references. On-site visits are usually a waste of time for most physicians. If the physician is in partnership or group practice, only one physician should undertake investigations.

2. Office Manager — Supervision Level

The practice's office manager should visit the sites of practices that are users of the services and systems of the vendors. Questions the manager should ask include the following:

a. Does the vendor live up to the contract and to other promises made?
b. What are the costs of conversion?
    - Personnel costs, including overtime.
    - Training costs, including overtime.
    - Outside service costs.
    - Facilities changes (electricity, wiring, air conditioning, space conversion).
c. Are there any personnel problems with your staff? Morale problems? Turnover of key employees?
d. How much down-time do you experience?
e. How responsive is the vendor in giving you service when you have problems such as down-time or other hurdles?
f. Is the training done at the vendor's offices or on your premises? Is this costly and interruptive?
g. Has the system saved the practice any money? Personnel costs? Supplies?
h. What is the cost-per-statement now compared to your old system?
i. Would you convert to this system again if you had your choice? What else would you do?

3. Clerical Billing Level

The employee currently most involved in billing, collections and insurance work should visit the referred practice, probably in conjunction with the office manager. The clerical billing employee should meet with the keyboard operator or clerical person most involved with the vendor system. This level of inquiry would not be necessary for the accounts receivable management service, since billing/collections work would no longer take place at the practice. It is also not likely to be necessary for the batch-processing service bureau mode.

Questions to be asked:

a. Is the system "friendly"? In other words, is the operator guided in what to do at each step of the way in making entries?
b. Is the system fast or slow in finding and displaying data?
c. Is the screen easy to read? Are characters clear? Are there glare problems?
d. How many statements are sent out each month?
e. How long does it take to prepare and send statements?
f. Is billing input up-to-date every day?
g. What other duties does the billing operator perform? How long do they take?
h. Does the billing operator like the system? Would he/she prefer to go back to the previous system? Is there any other system he/she would prefer?
i. What is the error rate in this system?
j. How many requests for additional information

are received from insurance carriers?

k. How many insurance claims are denied and why?

4. Other Considerations — With Your Own Mainframe Computer

a. If your practice grows in volume or number of physicians, can the computer hardware be expanded?

b. What could the physician(s) do alternately with the money they are investing in the computer system?

c. What would happen if the physicians separated?

d. Has your accountant reviewed the tax aspects of your computer purchase?

e. Recognize that your vendor can go out of business. Recently two well-financed organizations, Northrup and Sequoia, went out of the medical computer business.

f. Don't buy a computer for tax reasons.

5. Other Considerations — All Cases

a. How long has the company been in business?

b. How many clients have they had and for how long?

c. Request the entire client list and call any clients you wish. Be wary if the entire client list is not available.

d. Be sure you prepare your staff well in advance for any changes you plan. Involve key employees in the decision-making process.

e. It is almost impossible to beat the low-cost of statements in a pegboard system. However, other factors such as reports and insurance processing make the economic picture not the only consideration.

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Please see brief summary of prescribing information on the next page.

Brief Summary of prescribing information

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PRECAUTIONS: Ru-Tuss Tablets contain belladonna alkaloids, and must be administered with care to those patients with urinary bladder neck obstruction. Caution should be exercised when Ru-Tuss Tablets are given to patients with hypertension, cardiac or peripheral vascular disease or hyperthyroidism. Patients should avoid driving a motor vehicle or operating dangerous machinery (See WARNINGS:).

OVERDOSAGE: Since the action of sustained release products may continue for as long as 12 hours, treatment of overdoses directed at reversing the effects of the drug and supporting the patient should be maintained for at least that length of time. Saline cathartics are useful for hastening evacuation of unreleased medication. In children and infants, antihistamine overdosage may produce convulsions and death.

ADVERSE REACTIONS: Hypersensitivity reactions such as rash, urticaria, leukopenia agranulocytosis, and thrombocytopenia may occur. Other adverse reactions to Ru-Tuss Tablets may be drowsiness, lassitude, giddiness, dryness of the mucous membranes, tightness of the chest, thickening of bronchial secretions, urinary frequency and dysuria, palpitation, tachycardia, hypotension/hypertension, faintness, dizziness, tinnitus, headache, incoordination, visual disturbances, mydriasis, xerostomia, blurred vision, anorexia, nausea, vomiting, diarrhea, constipation, epigastric distress, hyperirritability, nervousness, dizziness and insomnia. Large overdoses may cause tachypnea, delirium, fever, stupor, coma and respiratory failure.

DOSAGE AND ADMINISTRATION: Adults and children over 12 years of age, one tablet morning and evening. Not recommended for children under 12 years of age. Tablets are to be swallowed whole.

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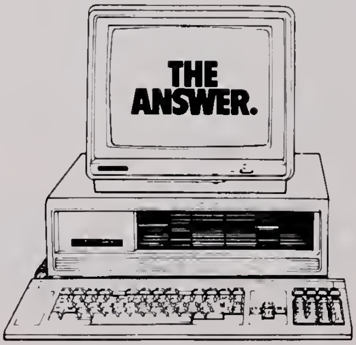

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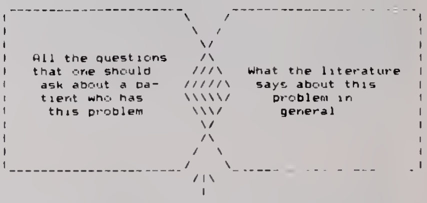
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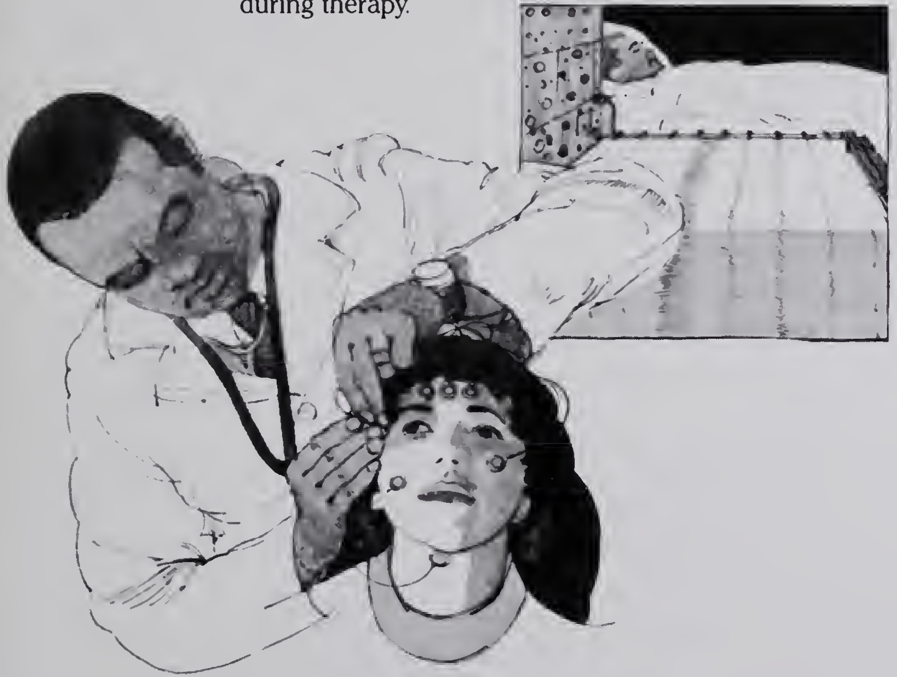

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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Missouri Medicine

Vol. 80, No. 9 (ISSN 0026-6620) September, 1983

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Diagnosis and Management

Clinical Use of Exercise Testing in Handicapped Patients

Voice Restoration After Total Laryngectomy

Editor's Corner

Special Book Review

●

'From Shamans to Specialists, History of Medicine and Health Care in Jackson County, Missouri

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MISSOURI STATE MEDICAL ASSOCIATION

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Rx

Whichever the doctor prescribes...

MOMEDICO now offers Missouri physicians their choice of professional liability insurance: either "modified claims-made" coverage or "occurrence" coverage.

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PROGRESS NOTES

missouri state medical association

SEPTEMBER 1983

MDs' Income Rises Slightly

Physicians' average quarterly net income was $27,300 during the second half of 1982, up 1.9 percent from the first half, according to the latest figures released by the Socioeconomic Monitoring System of the AMA Center for Health Policy Research.

Net income is defined as income after expenses, but before taxes.

For self-employed physicians, SMS found that the average quarterly expense of maintaining a practice was $21,400 during the second half of 1982, an increase of 8.1 percent over the first half. The findings were based on a survey of 1,237 physicians.

Physical Exam Forms Available

Forms that meet the requirements of the U.S. Department of Transportation for physicial examinations of professional truck drivers are available from the Missouri Bus and Truck Association.

Physical examination forms (50 per pad) are available for $2.50 per pad. Medical Examiners Certificates (wallet cards) are available for $1 per strip (5 cards per strip).

The minimum order is $10 and there is a $2 handling charge on all orders. Please remember to add sales tax and remit amount due with your order.

To order, write Missouri Bus and Truck Association, P.O. Box 1247, Jefferson City, Missouri 65102.

Vital Report

Report Proposes Change From UCR to Indemnity

One of the more important reports adopted by the AMA House of Delegates during the June Annual Meeting in Chicago is Report D from the Council on Medical Service which presents an analysis of payment mechanisms utilized by third party payors for reimbursement of medical services.

The Report recommends that the House of Delegates consider the issues involved and come to the December 1983 AMA Interim Meeting prepared to express their views.

The following is a synopsis of the report.

Present Association policy, which supports freedom of patients to choose their source of care and freedom of physicians to choose their method of payment — including fee-for-service, capitation, or salary — continues to be appropriate.

Within the fee-for-service approach, current AMA policy supports the basing of third party payment levels on the "usual and customary or reasonable" concept, and the majority of private and public payors use the "UCR" concept in establishing payment levels. However, the increasing costs resulting from this approach have caused both private and public payors to be caught between mounting pressure to constrain plan outlays on the one hand, and continuing consumer demand for comprehensive coverage of physicians' services on the other.

As one result, the "reasonable charge" used by payors — particularly public payors — in determining payment levels no longer reflects the actual charges made by most physicians, because of infrequent updating of fee profiles, percentile cut-offs on customary charge data, and annual percentage caps on prevailing charge increases.

In addition, pressure is increasing on physicians to accept the payor-

"Changing UCR," page 3

State-of-the-Art Network

MSMA Signs AMA/GTE Contract

The Missouri State Medical Association has completed negotiations with AMA/GTE to be the distributors of the AMA/GTE informational network. The contract makes MSMA responsible for the sales, training and service of this up-to-the-minute informational network.

The network is an electronic information retrieval system produced jointly by the American Medical Association and GTE Telenet Communication Corp. The system contains information as current and comprehensive as computer technology can make it.

In addition to the programs already in place (Drugs, Diseases, Medical Procedures, Socio-Economic Bibliography and MED/MAIL), two new programs will soon be available. Those programs are Category I CME from Massachusetts General Hospital and Excerpta Medica.

For more information about how you can plug into this state-of-the-art medical information system, contact MSMA Headquarters.

New Discount Now Available

AMA members receive a 10 percent discount on most books and pamphlets listed in the "AMA Professional Publications Catalog." The most recent catalog contains the first major announcement of this membership benefit. Member physicians may deduct 10 percent from the total cost of purchase before adding charges for handling and delivery. This discount does not apply to periodical subscriptions, publications available through commercial publishers, and a few other titles.

The catalog may be obtained by writing to the AMA Order Dept., P.O. Box 10946, Chicago, Ill. 60610.

Update On Insurance

A new Disability Income Program for members of the Missouri State Medical Association has been announced. Highlights of the changes and improvements in this new plan include:

- Increased monthly benefit limits — $3,000 to age 50; $1,500 to age 55.
- Premium reductions for younger ages.
- Liberalized definition of total disability.
- Residual (partial) disability benefit.
- Optional cost-of-living benefit adjustment.
- Monthly vs. weekly policy benefits.

Present insured's will soon be receiving information from MSMA's administrator, Fred S. James & Company, with full details about the new policy and how you can transfer over to the new program.

For those MSMA members who have not yet taken advantage of the Disability Income Program, you may request information from Fred S. James & Co. to see how this plan would be helpful to you in providing your necessary Disability Income protection. In western Missouri, write Fred S. James & Co., 2420 Pershing Rd., Kansas City 64108 or call (816) 842-6670. In eastern Missouri, write Fred S. James & Co., 231 S. Bemiston, Suite 1000, Clayton 63105 or call (314) 863-7777.

Now is a good time for a review of your program to be sure it is up-to-date. It's important to your financial security.

MSMA Council

Membership Committee To Focus On Recruitment

When they met August 26-27 in Columbia, the MSMA Council considered a full agenda and took actions on a number of important items.

The meeting opened with a film, "The Workers Comp Connection," produced jointly by the AMA and the Wasau Insurance Companies. Following the film, the Council approved the implementation of a Workers Compensation Dividend Program as a new membership benefit.

The Council also established an Ad Hoc Committee on Membership to improve recruitment techniques for the almost 3,000 Missouri physicians and students who are not MSMA members. The Committee will be chaired by **Dr. James Hopkins,** Kansas City, and is charged with developing ideas to recruit special groups (women, blacks, students, etc.) and replacing present membership barriers with membership incentives.

In regards to the 126th MSMA Annual Convention to be held in St. Louis next year, the Council approved moving the Convention from the Breckenridge Concourse to the Marriott Pavilion due to blueprint changes at the Breckenridge which would not accommodate the space required by MSMA. The dates of the Convention, March 29 - April 1, 1984, remain unchanged.

Several other changes affecting future MSMA Annual Conventions were recommended by the Commission on Continuing Education and Health Manpower and were adopted by the Council. These changes include replacing the Friday morning General Plenary Session with two sets of four concurrent 40-minute workshops with the sets being separated by a 10-minute break.

In other actions, the Council:

- Requested additional nominations for the Third Annual MSMA Citizenship and Community Service Award be submitted to MSMA Headquarters. Deadline for nominations is December 1, 1983.
- Approved plans for two new seminars for MSMA members in 1984. The seminars will be (1) Medical Assistant Programs and (2) Computers.
- Approved plans to hold a joint meeting between two members from each MSMA, MSMI and MOMEDICO. This group will forward recommendations to the Council as to how best to retire MSMA's debt to MOMEDICO.
- Approved sending letter to the AMA Board of Trustees recommending the appointment of **Dr. Marvin Singleton,** Joplin, to the AMA Council on Legislation.
- Approved sending letter to the AMA Board of Trustees nominating **Dr. Barbara Buchanan,** Kansas City, to the AMA Council on Long-Range Planning and Development.
- Approved producing a Medical Records brochure to be sold to physicians at cost for distribution to their patients.
- Approved producing an Office Checklist pamphlet which will contain such information as the registration of X-ray equipment and how to obtain a Federal Employer ID Number, a Business License and a Federal Narcotics License.
- Approved the creation of a public relations brochure to be provided to each MSMA member.
- Approved the production of a slide presentation and poster series highlighting MSMA activities and benefits and aimed at recruiting student members.
- Approved providing MSMA membership certificates to those members requesting the such.
- Heard Legislative Report which indicated the next session of the General Assembly will probably consider bills relating to cost containment, nurses and midwives, radiologic technologists, handicapped infants, and acupuncture.
- Read request from the state's Physical Therapists asking MSMA to help them gain approval of independent practice without the necessity of a physician's prescription. P.T.s say they are better trained than those persons who now provide such treatment independently and they will more likely refer cases to physicians.

Continued from Page 1

Changing UCR to Indemnity: "Fair and Equitable Fees"

determined reasonable charge as payment in full (except for allowed deductibles or coinsurance) i.e., to become "participating physicians." Such pressure is exerted through:

- plan or company contracts which increasingly allow assignment of benefits or make payment only when services are provided by participating physicians;
- beneficiary misunderstanding of "explanation of benefit" letters and resulting patient/physician friction;
- "hold harmless" communications from payors to subscribers, and
- increased consideration nationally of mandatory assignment or fee schedules under Medicare.

As these trends continue, patients will be increasingly restricted to "participating" providers as a condition for insurance coverage. Eventually, physicians' remuneration will be determined solely by third party payors for the great majority, if not all, of the professional services they render — with what the Council believes will be a resulting inevitable mediocrity in the quality of medical care.

Accordingly, the Council believes that the Association should seriously consider recommending that third parties change to an indemnit system of payment for physicians' services, i.e., paying a set amount for services rather than some proportion of the "usual and customary or reasonable" charge. Such a set amount would be determined by the payor itself on the basis of claims experience, public demand, competition and other relevant factors.

Such a change would benefit patients by:

- insuring their continued access to care not through external regulation of fees but through market forces;
- increasing both physicians' and patients' sensitivity to costs and quality of care provided;
- allowing them continued freedom of choice rather than being increasingly restricted to "participating" providers as a condition of coverage, and
- facilitating understanding and comparison of insurance coverages.

For third parties, rate determination would be simpler under an indemnity approach. Payors could establish premiums on the basis of prospective analysis of what the plan pays rather than on a statistical array of physician charges. Administrative costs should be significantly less. For government programs especially, it provides an alternative which permits budgetary restraints without further restrictions on type or duration of services covered or massive increases in enrollee copayment.

For physcians, this approach could bring improved patient-physician interaction, since neither physician nor patient will have false expectations of the amount of third party payment. Uncoupling third party payment from physicians' charges could act to reduce legislative and political pressure for mandating physician "participation" as a condition of payment, and help preserve for physicians the freedom to charge what they believe to be a fair and equitable fee, subject only to normal and effective market constraints.

The Council believes that a change of this import in Association policy should be considered carefully by this House with their constituents over the next six months. The Council will also continue its study, and will submit recommendations at the 1983 Interim Meeting.

The Council recommends, therefore, that members of the House consider the matter of physician reimbursement by means of indemnity versus UCR with their constituents and other concerned parties over the next six months, communicate any additional views and comments to the Council, and come to the next Interim Meeting of this Association prepared to further express their views on the subject.

The Missouri AMA delegation needs your input in this matter. Please forward your comments and recommendations as soon as possible to MSMA Headquarters, P.O. Box 1028, Jefferson City, Missouri 65102. For additional information or a complete copy of the 18-page report, you may write to MSMA at the above address.

"Cost Crisis" Seminar Planned

The St. Louis Metropolitan Medical Society in association with Deaconess Hospital will present a symposium, "Cost Crisis in Medicine," from 1:00 to 4:30 p.m., Sept. 27, 1983 at Deaconess Hospital in St. Louis.

The symposium will bring together recognized members of the medical profession, the hospital sector and the federal government to discuss recently enacted legislation and DRGs and their financial impact on physicians.

The speakers and their topics will be: **James H. Sammons**, M.D., Executive Vice President of the American Medical Association, "Hospitals, Physicians and Prospective Pricing;" **Carolyne K. Davis**, Ph.D., Administrator, Health Care Financing Administration, Department of Health and Human Services, "The View from Washington;" and **H. Joseph Curl**, Executive Vice President, American Hospital Association, "Can Hospitals Do It Again?"

The moderator will be **Hubert A. Ritter**, M.D., member of the Board of Trustees and Secretary-Treasurer of the American Medical Association. Dr. Ritter, St. Louis, is also a Commissioner of the Joint Commission on Accreditation of Hospitals.

The symposium is acceptable for 3.5 hours in Category II of the Physician Recognition Award of the AMA.

Sermchief Case Set for September

Oral arguments for the *Sermchief* case have been set for September before the Missouri Supreme Court. The case addresses the question of whether several registered nurses employed by family planning clinics in southeast Missouri were practicing medicine by prescribing medications and conducting pelvic examinations. The Missouri State Medical Association has filed an *amicus curiae* in the case.

Several related issues have been raised in the lawsuit including the extent of use of standing orders and protocols, the limits of the expanded role of professional nursing under the Nursing Practice Act, and the constitutionality of parts of the Medical Practice Act which regulates the practice of medicine in Missouri.

MDs Support More Education

There is strong support among physicians for increased patient education, according to a recently published survey of 1,000 telephone interviews with physicians selected at random. Ninety-five percent of those surveyed felt there is a need for patients to become better educated about their health while 86 percent agreed that increasing patient education will help control the cost of medical care by reducing unnecessary visits to physicians.

The majority of physicians surveyed also agreed that giving patients more information on treatment will improve the effectiveness of that treatment and giving written instructions, such as Patient Medical Instructions (PMIs), will decrease unnecessary callbacks to physicians' office.

Despite physicians' overwhelming support for increased patient education, they also have a number of reservations concerning some aspects. These reservations include feelings that patient education is time-consuming and inconvenient, patients can easily become overloaded with information and patients with partial or incomplete information pose problems to effective treatment.

Seventy percent of the physicians responding, however, did feel that PMIs will increase patient compliance with instructions and satisfaction with his/her physician visit. Fifty percent of the physicians believe that the use of PMIs will also decrease malpractice claims (32 percent believe it will have no effect).

Inflation Rate Modest 3.9%

The inflation rate of physicians' services was 6.4 percent in April, which, for the first time this year, was less than the increase in the overall Consumer Price Index, according to the AMA Center for Health Policy Research. The 8.9 percent increase in the overall CPI was the largest monthly jump this year. Nevertheless, the inflation rate for the most recent 12 month period was a modest 3.9 percent, well below the 6.6 percent increase for the previous 12 months.

In contrast, prescription drugs posted their third consecutive month of inflation at double-digit rates: 18 percent in April.

New Publications

Here's What's Coming

As a result of recommendations from the MSMA Commission on Public Affairs and the approval of the MSMA Council, several new publications will soon be available to all MSMA members. To beat the rush, use the convenient order form below and send in your order today. You will be billed later.

Medical Records Booklet — These pamphlet-sized sturdy brochures provide space for the owner to keep record of: personal data, insurance, family history, immunizations, hospitalizations, surgeries, medications and allergies. Excellent public relations tool for your practice. Available at 15 cents each.

Public Relations Brochure — This brochure outlines some simple steps every physician can take to improve communications with his/her patients. It also outlines some helpful communication tips for your office staff to apply to improve your image with patients. Available free upon request.

Office Checklist Brochure — This brochure contains important information in such areas as registration of X-ray equipment, workers' compensation for employees, how to obtain a Federal Employer ID Number, and where to obtain a Business License and a Federal Narcotics License. Available free upon request.

MSMA Membership Certificate These new and attractive certificates are printed on a strong gray textured paper and are excellent for framing. Each year you will also be sent a small annual sticker to apply to your certificate to keep it up-to-date. Available free upon request.

Old Favorites

Here's What's Available

■ **Patient Surveys** — These small and attractive surveys are designed to elicit frank, honest opinions from your patients. Do your patients feel comfortable asking you all the questions they have? Are they satisfied with your billing and insurance procedures? Do they feel they are able to see you in a reasonable time? Surveys are available at 10 cents each.

■ **Cost Containment** — Some of the information offered to your patients in the brochure, "You and Your Physician — Partners in Reducing Health Care Costs," includes why health care costs are rising, what physicians are doing to contain these costs and how patients can help keep their own health care costs down. These brochures are available at 10 cents each.

■ **Physician Public Relations** — This free packet of information outlines three specific steps physicians can take to improve communications with patients. The packet includes a sample of a patient survey and a patient information brochure.

■ **Medical Messages** — Each month, the MSMA Communications Department produces two medical columns on a wide range of topics such as breast cancer, AIDS, caffeine, Herpes Simplex, high blood pressure and asthma. These illustrated articles, on coated print paper, are available to physicians at an annual cost of $12. Each subscribing physician will receive two articles a month which he/she may display or reproduce and distribute to patients.

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In addition, in view of *The Copyright Revision Act of 1976*, effective Jan. 1, 1978, transmittal letters to the editor should contain the following language: "In consideration of the Missouri State Medical Association's taking action in reviewing and editing my submission, the author(s) undersigned hereby transfers, assigns or otherwise conveys all copyright ownership to the MSMA in the event that such work is published by the MSMA." We regret that transmittal letters not containing the foregoing language signed by *all* authors of the submission will necessitate delay in review of the manuscript.

Manuscripts should be typewritten, double spaced, and the original with one carbon copy submitted. Retain another carbon copy for proofreading. **Please number the pages of your manuscript.** Used manuscripts are not returned. School and hospital appointments of the author should accompany the manuscript. It is desirable that a synopsis-abstract of approximately 135 words accompany the manuscript.

References should be cited in numerical order in the text and arranged at the end of the article in the same order in which they are cited. The reference should give name of author, title of article, name of periodical, volume number, initial page number and year. Authors are responsible for reference accuracy.

Illustrations should be glossy prints or drawings in India ink on white paper. They should not be mounted and name of author and figure number should be penciled lightly on the backs. Legends should appear on a separate sheet.

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Missouri Medicine

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Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome. *Oral forms* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures; tetanus; anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

> ***Usage in Pregnancy:*** **Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE *To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used I.V.: inject slowly, taking at least one minute for each 5 mg (1 ml) given; do not use small veins,* i.e., *dorsum of hand or wrist; use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Injectable Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects — particularly with known compounds which may potentiate action of diazepam, *i.e.*, phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE: Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia.

In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL: *Adults:* Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche) tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease capsules (15 to 30 mg) daily. Acute alcohol withdrawal—tablets, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 capsules (30 mg) the first 24 hours, then 1 capsule (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—tablets, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily. Adjunctively in convulsive disorders—tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily.

Geriatric or *debilitated patients:* Tablets—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children: Tablets—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose (not for use in children under 6 months).

INJECTABLE. Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.)

For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., *dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration* or *extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children *administer I.V. slowly*; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg adult dose administered slowly, repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. Infants (over 30 days) and children (under 5 years), 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). Children 5 years plus, 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levarterenol or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL Valium scored tablets — 2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules — 15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

INJECTABLE: Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.

ROCHE®

Editor's Corner

EDITORIAL

Our travels have twice taken us overseas for medical meetings, where one would expect to obtain a different perspective on matters medical and otherwise. In India, where physicians can barely try to keep up with the medical needs of the population, some unique experimental human research was being carried out. The reasoning behind such innovative work in a "third power" country: The doctors there formerly depended on the United States for pioneering new ideas in medicine, but since the legal climate in American was such that many types of medical research are no longer possible, it has to be carried out in a poor but unfettered country such as theirs.

At a course in Holland a few years ago, it was soon evident that we all did our medical work the same way. European doctors really had only one question to ask of their guest from the States: Why did we let the lawyers control so much of our country's activities? This was downright embarrassing — there was no valid answer to give, other than the usual mumbo-jumbo about lawyers making the laws for their own benefit and judges unfortunately being lawyers, etc. Our pride in America was stopped dead in its tracks.

Some subject matters are made to order for an editorial. Some subjects, like the practical ramifications of our legal processes, are almost too complex to tackle. We all recognize the problems; most of us have had experiences with the application of due process of law, which is often a far cry from the theory behind the legal system.

Just as a public health doctor can list inciting factors that bring about an epidemic, one can easily list the major contributing causes of our current legal crisis of claims, consignments, courts and countersuits.

When one citizen in 400 is a lawyer, as is now true in these United States, the stage is set for trouble. (If one citizen in 400 were a surgeon with full cutting rights, we'd all be hiding in corners protecting our bellies.) A family friend on entering law school a few years back was greeted on opening day with a speech by the dean, who proclaimed that there were already too many attorneys afoot and that they'd have to go out and "make work" when they graduated. That's like telling finishing dermatologists that they have to go out and spread itch powder so that they can make it in the real world. Add excess attorneys to a philosophy of making work by whatever means are convenient, fuel the situation with human greed to make it go, place this morass in a legal court system concerned more with technicalities than with practicalities and, thus, we have our legal system at its worst.

Physicians are used to tending to problems in their own field of endeavor, and they probably wouldn't be paying too much attention to the legal world if it didn't reach out and touch them so often. If we spend our professional lives separating the valid from the invalid in people medically, we cannot suddenly stop such thought processes when we are involved with people legally. Increasingly, a large segment of the business world is becoming disenamoured with the more costly and indefensible aspects of our current law and court arrangement so, as physicians, we are not alone. The system won't be changed overnight, but by continuing pressure from organized medicine, from us as individuals, and from leaders in all segments of our society, our legal system can surely be infused with some common sense and so be allowed to do the job it was meant to do.

JORDAN W. BURKEY, M.D.
Springfield

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Brief Summary of prescribing information

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WARNINGS: Ru-Tuss Tablets may cause drowsiness. Patients should be warned of possible additive effects caused by taking antihistamines with alcohol, hypnotics, sedatives or tranquilizers.
PRECAUTIONS: Ru-Tuss Tablets contain belladonna alkaloids, and must be administered with care to those patients with urinary bladder neck obstruction. Caution should be exercised when Ru-Tuss Tablets are given to patients with hypertension, cardiac or peripheral vascular disease or hyperthyroidism. Patients should avoid driving a motor vehicle or operating dangerous machinery (See WARNINGS:).
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DOSAGE AND ADMINISTRATION: Adults and children over 12 years of age, one tablet morning and evening. Not recommended for children under 12 years of age. Tablets are to be swallowed whole.
Federal law prohibits dispensing without prescription.

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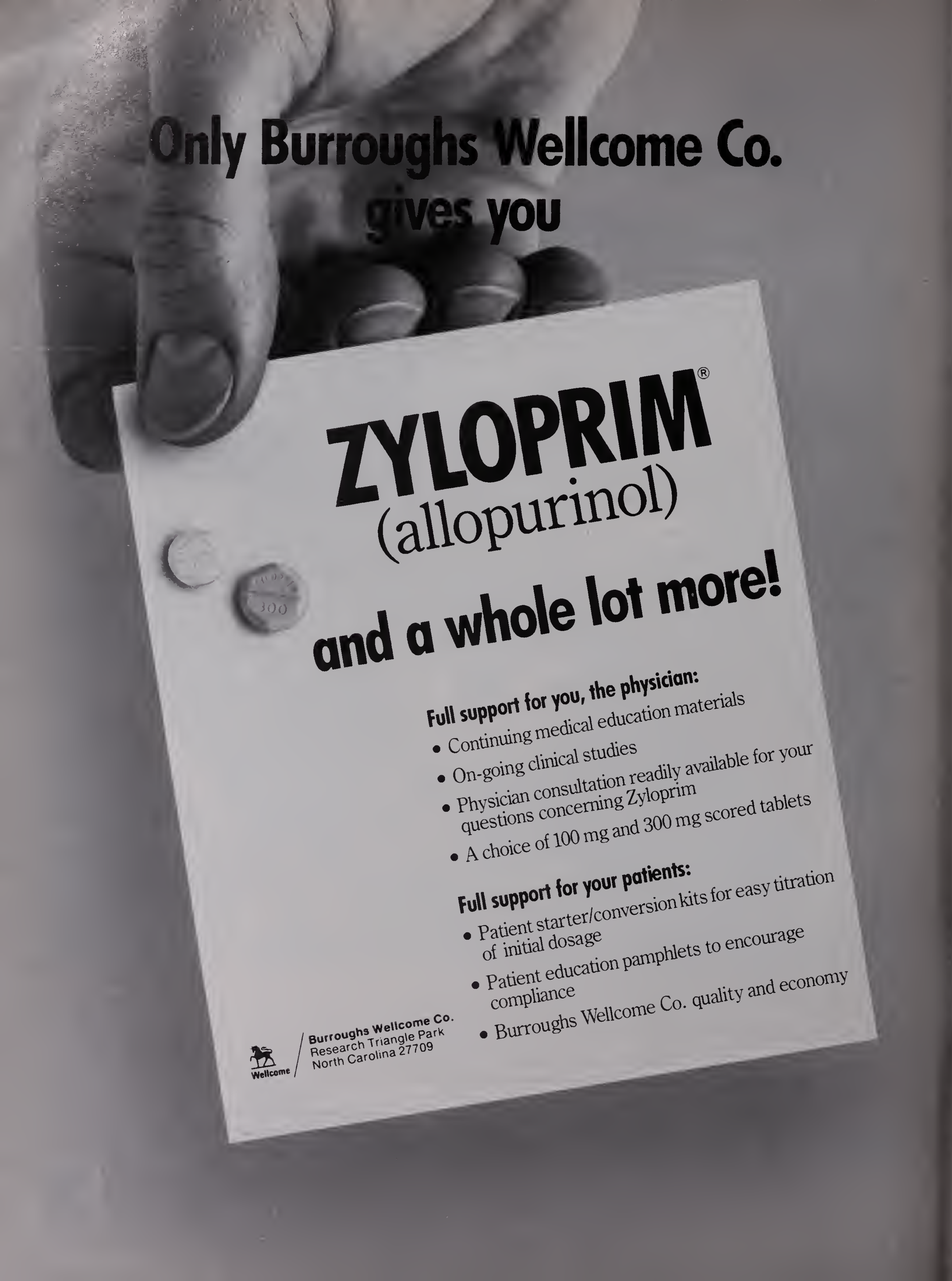

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Volume 80, Number 9 — September, 1983

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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SAMUEL H. SADOW, M.D., JACK J. CURTIS, M.D., JOSEPH T. WALLS, M.D.,
RICHARD B. WHITING, M.D. *and* MICHAEL H. METZLER, M.D., *Columbia*

Myocardial Contusion

Diagnosis and Management

In this age of mobilization and mechanization, injury to the heart caused by nonpenetrating trauma has become an important clinical entity. Myocardial contusion, with its many pathophysiologic manifestations, is perhaps the most common injury of the heart caused by blunt chest trauma. The purpose of this paper, which is based on the clinical experience of the authors and a review of the medical literature, is to emphasize the broad clinical spectrum and illusive diagnosis of myocardial contusion.

The following selected case histories from the University of Missouri-Columbia Medical Center experience exemplify the varied clinical manifestations of this entity:

Case Reports

Case #1 A 31-year-old woman was evaluated at the University of Missouri-Columbia Medical Center for blunt trauma sustained in an auto accident in which she was the driver. She complained only of mild chest wall pain.

On examination, she was lethargic, with a pulse rate of 100 and blood pressure of 114/72. There was a small anterior chest wall abrasion. Results of cardiac examination were within normal limits. Her associated injuries were a mild concussion and an unstable C_{6-7} fracture. There was no evidence of blood loss.

An electrocardiogram (ECG) showed depressed ST segments in V_{3-6}. The creatine kinase myocardial isoenzyme (CK-MB) was normal. She was monitored for 96 hours in the Intensive Care Unit, during which time her ECG became normal. The tachycardia resolved and the cardiac examination results remained unremarkable as she recovered from the associated injuries.

Case #2 A 23-year-old man was admitted to the hospital 18 hours after severe blunt chest trauma sustained in an auto accident in which he was the driver. On examination, the blood pressure was 80/40; pulse rate, 112; and respirations, 24. There were precordial abrasions (Fig. 1) and tenderness and a paradoxical pulse of 20 mm-26 mm Hg.

Myocardial contusion is an entity that includes a wide spectrum of pathophysiologic manifestations ranging from silent dysrhythmias to rupture of the myocardium. This lesion is potentially lethal and more common than previously recognized. The diagnosis must be seriously pursued with a keen index of suspicion because its presentation is often obscured by attention given to other organ systems and because of the lack of specific diagnostic tests. In-hospital observation with ECG monitoring is indicated with the primary management being supportive and expectant. If myocardial contusion is recognized and treated properly, the prognosis is favorable, providing the patient survives the acute episode.

The authors are from the Departments of Surgery and Medicine, University of Missouri-Columbia School of Medicine.

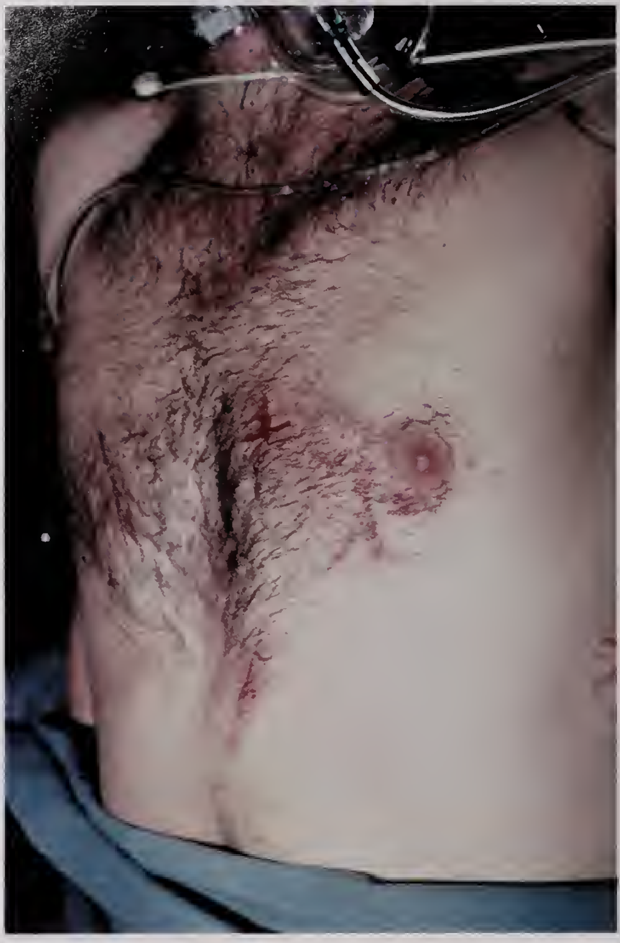

Fig. 1 Precordial contusion and abrasion are apparent in this patient who subsequently required relief of pericardial tamponade (Case #2). While these physical signs alert the examiner to the possibility of myocardial contusion, many cases of myocardial contusion have been documented without gross evidence of chest wall trauma.

A chest x-ray showed a large cardiac silhouette but no rib or sternal fractures. The ECG showed sinus tachycardia and diffuse ST-T wave changes (Fig. 2). The CK-MB fraction remained within normal limits.

Surgical exploration relieved the pericardial tamponade with no active bleeding observed. Right atrial and right ventricular contusions were apparent to gross inspection. The patient's recovery was complete and his ECG normalized (Fig. 3).

Case #3 A 20-year-old man was admitted to his local hospital after sustaining severe multisystem injury from a two-car head-on collision. He was one of the drivers. He had a closed head injury, right hemopneumothorax with multiple fractured ribs, and multiple long bone fractures. His initial electrocardiogram showed inverted T-waves in all precordial leads, which became more pronounced during the subsequent 48 hours. A new murmur was noted on his eighth hospital day although he remained hemodynamically stable. Following recovery from associated injuries, he was referred to the University of Missouri-Columbia Medical Center for cardiac evaluation.

Examination at our institution revealed a healthy-appearing young man in no distress. There was a harsh grade IV/VI holosystolic murmur and thrill over the entire precordium. Cardiac catheterization demonstrated a large, muscular ventricular septal defect near the apex with a calculated pulmonary to systemic blood flow ratio of 5:1.

The patient underwent successful patch closure of his ventricular septal defect through a right ventriculotomy and has subsequently done well.

Case #4 A 46-year-old male lumberjack was admitted to the University of Missouri-Columbia Medical Center complaining of severe anterior chest pain soon after being struck in the chest by a falling tree. There was no prior history of cardiovascular disease.

On examination, the blood pressure was 70 systolic and pulse rate was 105/min.

There were marked anterior chest wall tenderness and contusion but no sternal or rib fractures. There were no associated injuries, and the hemoglobin level remained stable. The admission electrocardiogram showed an acute inferior and possible anteroseptal wall infarction pattern (Fig. 4). Total creatine kinase was 1592 IU with an elevated MB isoenzyme of 9.9% (normal < 4%). He received pharmacologic support in the Coronary Care Unit, where he progressed well and was dismissed from the hospital on the 21st hospital day.

He returned six weeks later with chest pain compatible with angina pectoris and physical examination results consistent with congestive heart failure. Radionuclide gated blood pool angiography showed a left ventricular ejection fraction of 24% (normal, 55% or greater). Cardiac catheterization with contrast studies of the left ventricle and coronary angiography confirmed markedly reduced left ventricular function caused by a large left ventricular aneurysm and three-vessel atherosclerotic coronary artery disease. He underwent successful left ventricular aneurysmectomy and coronary revascularization.

DISCUSSION

While myocardial contusion caused by nonpenetrating chest trauma has been recognized for many years, only recently has it become clear that patients with this condition exist in significant numbers.[1] Sigler, in 1942, reported 42 cases of serious body trauma with 76% having evidence of cardiac damage.[2] Autopsy series in unselected auto accident victims have found myocardial contusion in 15% of all fatal thoracic injuries.[3, 4]

There is little doubt that the advent of high-speed transportation has increased the occurrence of cardiac injuries from blunt trauma. Other than vehicular, the causes of nonpenetrating trauma resulting in myocardial contusion include direct blows to the chest by a blunt object,

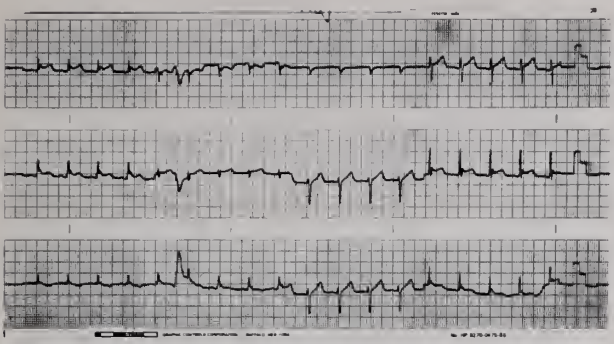

Fig. 2 ECG of patient described in Case #2 showing sinus tachycardia and diffuse ST-T changes.

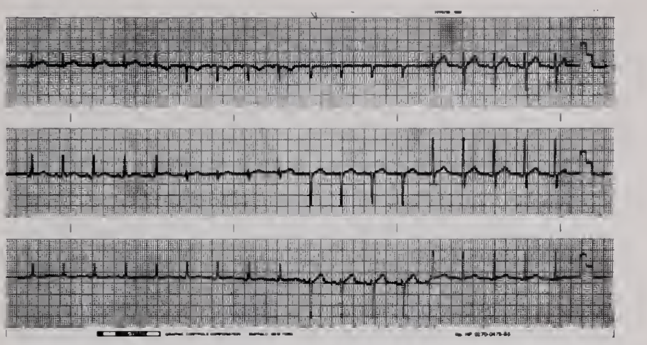

Fig. 3 ECG of same patient as in Fig. 1 (Case #2) seven days after accident showing normalization of ST-T changes.

such as a fist,[4] various kinds of sporting equipment[2, 5] or, unfortunately, a cardiac resuscitative effort.[6]

The true incidence of myocardial contusion is difficult to know because mild cases probably go undetected. Indeed, cardiac contusions may be among the most frequently missed or delayed diagnoses.[7] The delay in diagnosis in some cases is related to the attention focused on concomitant severe injuries, lack of objective evidence of thoracic injury, and an initially normal cardiac examination.

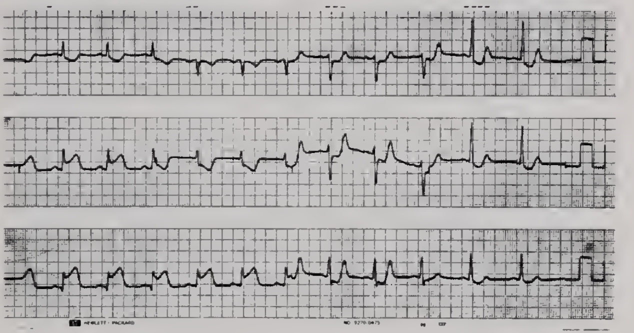

Fig. 4 ECG obtained of a patient soon after a tree had fallen on his chest (Case #4). Inferior and anteroseptal ischemic changes are apparent.

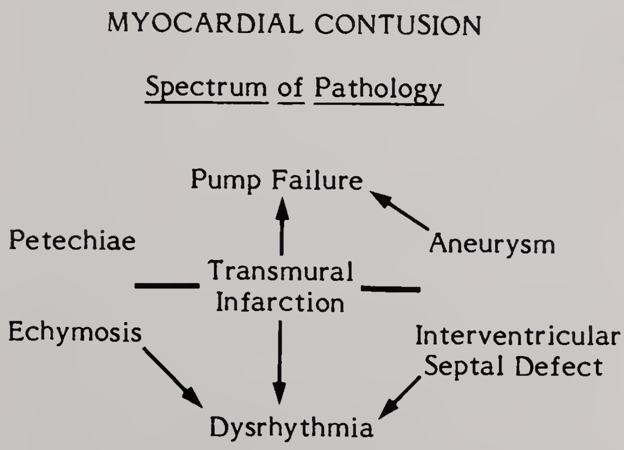

Fig. 5 Schematic of pathophysiologic spectrum in myocardial contusion.

Pathophysiology

Saunders and Doty emphasized that myocardial contusion caused by nonpenetrating trauma exists in a spectrum of cardiac injuries ranging from silent arrhythmias to cardiac rupture.[8] As illustrated in the schematic in Fig. 5, the gross histopathological lesions in myocardial contusion range from patchy areas of petechiae or myocardial hemorrhage in the subendocardium or subepicardium to the transmural injury predisposing to aneurysm formation and septal perforation.

Although myocardial contusion has been reported in association with major coronary artery occlusion, thrombosis, rupture or fistula formation, the principal anatomic lesion is the myocardial necrosis resulting from changes in perfusion by small vessels in the coronary microvasculature.[9] There is a striking similarity in the histopathological changes of an early myocardial contusion and that of ischemic myocardial infarction because sarcomere necrosis is common to both.[10] Subsequent localized softening and fibrosis may then lead to dilatation and paradoxical systolic motion.[11, 12]

Despite its seemingly protected position, Inkley and Barry demonstrated that the interventricular septum is vulnerable to a traumatic blow delivered late in diastole or early systole.[13] Septal perforation owing to trauma most commonly occurs in the muscular portion near the apex.[5] The conduction system may also be involved in myocardial contusion.[14] In addition, any mild or severe trauma to the myocardium can cause dysrhythmias.

Diagnosis

The best clue to the detection of myocardial contusion is the history with particular attention to the mechanism of injury. The most common reported symptom of myocardial contusion is precordial pain resembling angina that is usually unaffected by vasodilators.[4, 8, 15] We have observed this symptom only in patients with transmural infarction, as in Cases #3 and #4. Patients with more severe myocardial contusion may also have dyspnea. Tachycardia is the most common physical sign in both clinical and experimental settings and, if out of proportion to the degree of observable trauma, is a clue to the occult myocardial contusion.[4, 8, 16-18] Inspection of the chest may reveal precordial echymoses. Auscultation may reveal the rub of pericarditis or the murmur of valvular dysfunction or septal perforation. Hypotension and evidence of decreased cardiac output may be present in severe myocardial contusion. Generally, however, symptoms and physical signs are few and nonspecific.

In our experience, ECG changes best support the clinical suggestion of myocardial contusion. Electrocardiographic changes range from sinus tachycardia and minor ST-T changes to life-threatening dysrhythmias to patterns indistinguishable from myocardial infarction. Transient or permanent bundle branch blocks may also occur as well as changes suggestive of pericarditis.[4, 11, 14, 15, 19-21] If myocardial contusion is suggested clinically from the nature of the traumatic injury, serial ECGs should be performed because the initial one may be normal with subsequent evolvement of abnormalities 24 to 48 hours later.[20]

Elevation of CK and other enzymes are nonspecific for cardiac injury. However, the MB fraction of CK may be elevated with or without ECG evidence of cardiac injury.[22, 23] One would expect the MB fraction of the CK enzyme to be positive in all cases of myocardial contusion. While this laboratory test should be obtained for all patients with suggestive myocardial contusion, we have been disappointed with both the specificity and the sensitivity of this test. When the CK level exceeds 3,000 IU owing to massive soft tissue trauma, the MB fraction may be spuriously elevated.[22]

The technetium 99 m stannous pyrophosphate radionuclide myocardial scan of the heart is another laboratory study available for detecting injury to myocardial cells.[24] In our experience, this test is supportive if positive, but does not exclude the diagnosis of myocardial contusion if negative.

Electrocardiogram gated blood pool radionuclide angiography has also been used to quantify myocardial embarrassment following myocardial contusion. In their series, Pomerantz and Eiseman found a significant reduction in cardiac output in 11 of 17 patients whose symptoms were suggestive of myocardial contusion.[18]

Because large vessel occlusion, as demonstrated by coronary angiography, is not essential for the development of myocardial contusion, cardiac catheterization is reserved for those patients in whom there is a high index of suggestion for a specific mechanical abnormality, e.g., a new murmur, a ventricular aneurysm or persistent angina.[25] We would agree with others who favor serial electrocardiograms for screening and electrocardiogram gated blood pool radionuclide angiography to assess myocardial performance as effective methods of defining injury in myocardial contusion.[26, 27]

Management

Patients sustaining blunt chest trauma should be admitted to the hospital for constant ECG monitoring and observation for complicating sequellae.

The treatment of suggestive or diagnosed myocardial contusion, like that for myocardial infarction, is basically supportive and expectant. Dysrhythmias and/or hemodynamic compromise should be aggressively treated pharmacologically. The use of anticoagulants is controversial.[28] Generally, their use has been condemned for fear of precipitating or exacerbating intramyocardial or intrapericardial hemorrhage, or exsanguination if there is multisystem trauma.

Surgical treatment is reserved for complications. If left ventricular failure or ventricular dysrhythmias refractory to medical management obtain, intraaortic balloon counterpulsation can be employed with reported success.[29] Surgery also may be required in those uncommon cases that develop ventricular aneurysm, interventricular septal defects or valvular dysfunction. Waldhausen, in 1966, performed the first successful repair of a ventricular aneurysm secondary to nonpenetrating trauma. A few additional cases have since been reported.[30-36] In 1959, Campbell described the first successful repair of a trauma-induced ventricular septal defect[37] and other isolated reports also have appeared.[38] Our case presentations of successful management of ventricular aneurysm and ventricular septal defect following myocardial contusion serve to demonstrate the need for careful followup in these patients.

Acknowledgements: The authors wish to express appreciation to Theresa Boley, R.N. for her assistance in data collection.

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The American Medical Association will hold its 43rd Annual Congress on Occupational Health on Oct. 7-8, 1983, at the Cleveland Marriott Inn-East, Beachwood, Ohio.

The meeting is being held in conjunction with the annual Scientific Session of the Tri-State Occupational Medical Association, representing occupational physicians in Ohio, Pennsylvania and West Virginia.

The Congress will focus on special problems facing women workers in industry, environmental carcinogens, evaluation of physical impairment, health care cost containment and legal issues in occupational medicine and workers' compensation.

For assistance in registering and in arranging interviews, please contact Karen Prupes, American Medical Association, 312/751-6609.

STANLEY E. THAWLEY, M.D., DENNIS FULLER, Ph.D.
and SHERYL SETZEN, M.A., C.C.C., *St. Louis*

Voice Restoration After Total Laryngectomy

RECENTLY, a simple voice restoration procedure has been developed that has had a high success rate in restoring voice to patients who have had their entire larynx removed. Most patients who have lost the larynx eventually learn to use either an artificial larynx or they develop satisfactory esophageal speech. The artificial larynx can provide efficient and functional voice when used well. Drawbacks to this type of speech include the mechanical sound with its lack of inflection, the necessity of using the hand to place the instrument onto the neck area and the problems of instrument maintenance.

Some patients do learn excellent esophageal speech after total laryngectomy. Other patients are either unwilling or unable to develop a high level of proficiency of esophageal speech. A significant number of patients simply cannot learn to regurgitate the air into the esophagus and then properly release it into the hypopharynx in order to create the speech sounds. This frequently leads to a great deal of frustration on the part of the patient, the speech therapist and, also, other family members.

The placement of the permanent trachea stoma in the anterior neck area presents a cosmetic deformity for the patient. The lack of proper development of good esophageal speech combined with the cosmetic deformity in a patient who has had cancer of the larynx tends to definitely affect the psychological well-being of these patients. Even patients who have learned good esophageal speech may have difficulty in obtaining prolonged phrases and projecting their voices loudly.

In the past, numerous surgical procedures were developed to produce esophageal speech in patients who have lost their larynx. All of these procedures were aimed at diverting exhaled pulmonary air into the esophagus or hypopharynx, thus producing esophageal speech. Most of these procedures were designed to create a shunt between the remaining trachea and esophagus or hypopharynx.

The problems facing this type of surgical reconstruction were many. Shunts had to be created so that air could be exhaled from the trachea into the esophagus, but contents from the hypopharynx or esophagus had to be prevented from entering the trachea in a retrograde fashion. If this occurred, aspiration ensued and pulmonary complications developed. Consequently, it was technically difficult to assure that a one-way tube could be maintained so that air could be exhaled but contents of the esophagus and hypopharynx would be prevented from entering in a retrograde fashion. Many times the shunts stenosed and required multiple revisions and ultimate failure. These operations commonly required multiple procedures in patients who frequently had received radiation in the area of surgery. Many of these cases resulted in complications such as stenosis, aspiration, wound breakdown, mediastinitis and, even, carotid hemorrhage.

In 1980, Singer and Blom described a tracheal esophageal puncture technique in which a small puncture is created between the trachea and esophagus and maintained patent by a prosthesis.[1] This procedure has been received with enthusiasm because contrary to the prior operations, this technique has been associated with a high degree of success in terms of esophageal

Recently, a simple voice restoration procedure has been developed and has had a high success rate in restoring voice to patients who have had their entire larynx removed and who have been unable to learn esophageal speech. The procedure is performed six to eight months after total laryngectomy. Compared to earlier surgical procedures, the success rate has been high and the complication rate low.

Dr. Thawley is Associate Professor of Otolaryngology, Washington University School of Medicine and Barnes Hospital and Chief of Otolaryngology/Head and Neck Surgery, Veterans Administration Hospital. Dr. Fuller is Associate Chief of Speech Therapy Services, Veterans Administration Hospital. Ms. Setzen is speech therapist, Barnes Hospital.

speech. It also is associated with a very low complication rate. A similar procedure with a slightly different prosthesis was developed by Panje in 1980.[2]

Both types of prostheses have one-way valves that allow air to pass from the trachea into the hypopharynx but prevent hypopharyngeal contents from entering trachea. The prostheses have external flanges to hold them in proper position (Fig. 1). Timing of the procedure has been a matter of debate. Some surgeons have performed the voice reconstruction surgery at the time of the total laryngectomy while other surgeons recommend waiting two to 12 months after surgery. Our current recommendation is to wait at least six to eight months after the total laryngectomy to give the patient that period of time to try to learn esophageal speech.

We still consider good esophageal speech to be the best method of speech for these patients and therefore, give these patients a proper amount of time to try to develop that speech if at all possible, thus avoiding any type of extra surgery. If after six to eight months of speech therapy the patient has not learned esophageal speech, then consideration is given to performing the voice restoration surgery.

This is a team approach and the decision to recommend the surgery to the patient is made only after consultation with the speech therapist. Patients are counseled extensively by both speech therapists and the surgeon preoperatively. Educational movies are shown to the patients. They are instructed about what will be required of them following the surgery in order to deal with the prosthesis and to effectively produce voice.

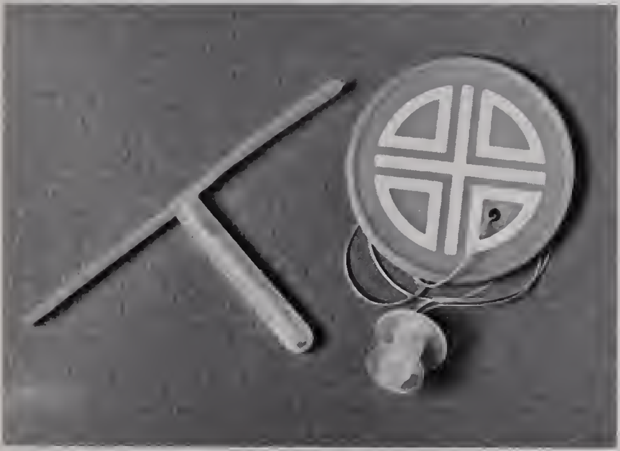

Fig. 1 Singer-Blom prosthesis *(left)*, Panje prosthesis *(right)*. The Singer-Blom prosthesis is taped to the skin. The Panje prosthesis is held in position by the medial and lateral flanges. The large disk on the Panje prosthesis is taped to the chest to prevent loss of the prosthesis.

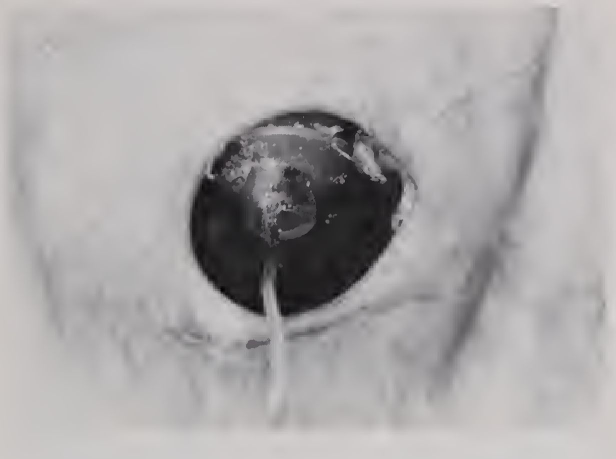

Fig. 2 Proper positioning of a Panje prosthesis within the tracheal stoma.

The tracheal stoma has to be large enough to tolerate the prosthesis that fits on the posterior wall (Fig. 2). If the tracheal stoma is small, addition of a prosthesis may partially occlude the stoma and produce dyspnea. If there is a significant amount of tracheitis or irritation in the stomal area, this problem is resolved before surgery is contemplated.

Some patients have upper esophageal spasms that prevent the flow of air into the hypopharynx. If this occurs, the surgery will be unsuccessful. This condition should be diagnosed preoperatively by passing a small catheter into the esophagus, insufflating air into that area and then asking the patient to speak. If good esophageal speech is produced with this maneuver, patients are judged not to have a significant amount of esophageal spasm.

TECHNIQUE

Surgery is done with the patients under general anesthesia in the operating room. A modified bronchoscope with a hole cut on the dorsal surface close to the distal end is used. This is positioned within the esophagus along the posterior tracheal wall so that the hole is approximately 1 cm inside the muco-cutaneous junction of the trachea stoma in the midline. A small hole is made in the posterior tracheal wall at this site and extended into the anterior esophageal wall (Fig. 3). A 14 French cathether is then passed through the puncture site and brought into the hypopharynx and out of the nose or down into the esophagus (Fig. 4). The catheter is secured in position for four days.

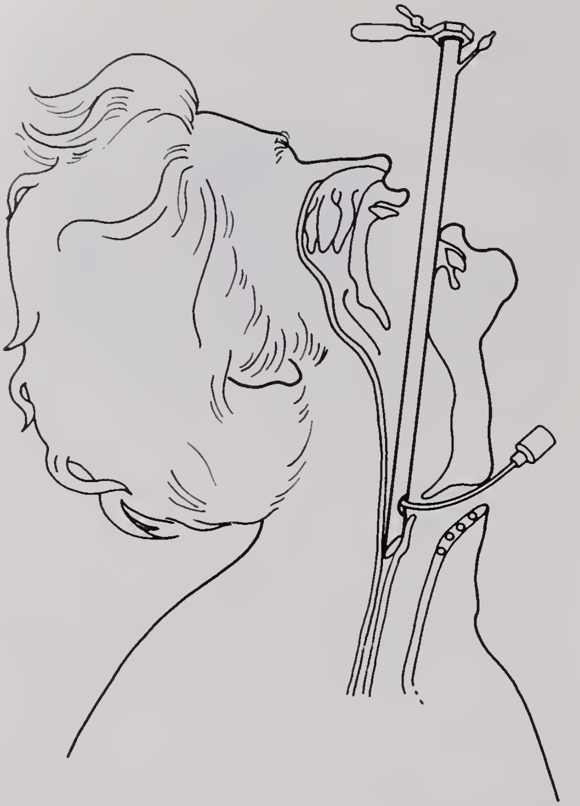

Fig. 3 Placement of the puncture site under endoscopic control.

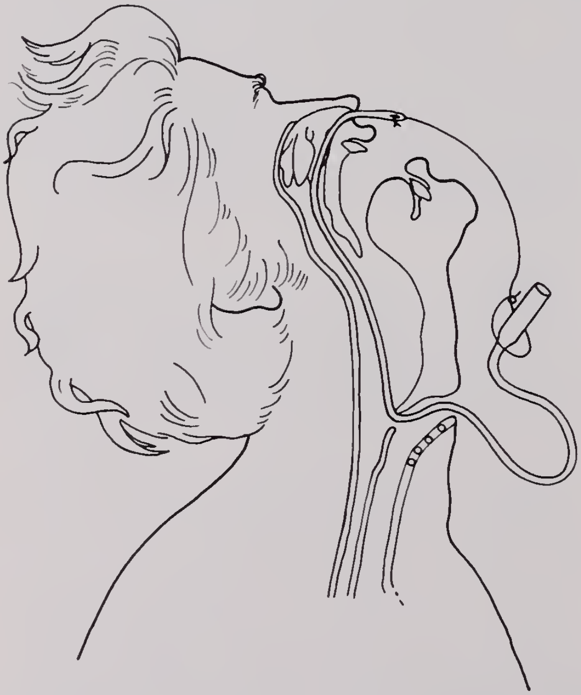

Fig. 4 Catheter in place serves as a stent for the puncture site.

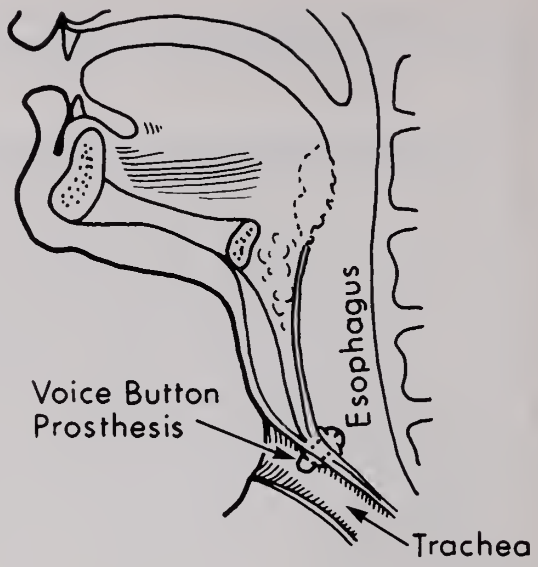

Fig. 5 Proper position of the Panje prosthesis.

On the fourth day, the catheter is removed in the office and either the Singer-Blom or the Panje prosthesis is fitted in position. If the Singer-Blom prosthesis is used, it is fitted under fluoroscopy to be sure that the tip of the prosthesis is well within the esophagus. The Panje prosthesis does not require fluoroscopic placement because a medial flange holds the prosthesis in proper position within the esophageal lumen (Fig. 5).

Once the prosthesis is fitted in most patients, speech is immediate or develops quickly within the first 24 to 48 hours. When the patient wishes to speak, he simply exhales and covers his trachea stoma so that air comes up from the trachea, enters the prosthesis and is shunted into the esophagus and up into the hypopharynx producing esophageal speech.

Results

To date, we have performed this procedure on 36 patients. At the present time, 31 of these patients are successfully using their prosthesis with good esophageal speech. One patient did not tolerate the prosthesis because of narrowness of the trachea stoma and the prosthesis was removed. Another patient simply did not want to bother with manipulating the prosthesis and, therefore, removal of the prosthesis was performed. One patient developed tracheitis that required removal of the prosthesis. Two patients developed enlargement of the puncture area and the prostheses were removed with satisfactory closure of the site. Five patients did not maintain the correct position of the prosthesis and closure of the puncture site resulted. They were repunctured with successful results.

DISCUSSION

This procedure has been a successful one especially when the results and complications are compared to the previous surgical procedures designed to produce esophageal speech. Generally, the complications in our patients and in those from other medical centers around the country have been associated with improper fitting of the prosthesis or improper care and maintenance by the patient.

Many of these problems have now been resolved by careful selection of the patient, by intensive preoperative counseling and education of the patient, and by proper fitting of the prosthesis by the surgeon and speech therapist. If the prosthesis is too short, the puncture site may not be kept patent and frequently the fistula will close spontaneously resulting in failure. If the prosthesis is too long, it will impinge on the posterior esophageal wall and pain will ensue. Irritation around the puncture site has been a problem for a few patients. Most of these can be managed with local topical care.

Proper placement of the puncture site is important (Fig. 5). If the puncture site is placed too deep within the trachea, correct placement and maintenance of the prosthesis by the patient may be impossible. If the prosthesis is placed too close to the muco-cutaneous junction, the prosthesis may not function well because of poor positioning within the esophagus or hypopharynx.

Some patients simply do not like to bother with daily replacement and cleansing of the prosthesis. Others do not like to tape the flanges to the skin around the trachea stoma. There have been a few reports of aspiration of the prosthesis into the trachea bronchial tree. Patients may cough out their prosthesis and not place it back into proper position for several hours. Frequently, the puncture site will close within several hours and repuncture of that area may be necessary. Generally, the puncture site will close rapidly following removal of a prosthesis.

If the patient is dissatisfied with the prosthesis or if complications develop, simple removal of the prosthesis usually will result in closure of the puncture site within 24 to 72 hours. We have had two patients who had prolonged closure for up to ten days.

Generally, the patients have been satisfied with the quality of the resultant speech. The prosthetic esophageal speech is generally the same in quality to nonprosthetic esophageal speech. Patients using the prosthesis are able to phonate for longer periods of time and have a more fluent speech than natural esophageal speakers. Our indications at the present time for this procedure are as follows:

1. Patients who have been unable to learn satisfactory esophageal speech within a period of six to eight months following total laryngectomy.
2. Patients who are satisfactorily using a vibrating type of speech device but are displeased with it.

Advantages of this procedure are that (1) it produces a good quality of esophageal speech; (2) the success rate is high and the complication rate is low and (3) the speed of developing speech following the reconstructive surgery is very rapid.

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> A mind is like a muscle. Unstretched, it cramps and withers and decays.
> —W. E. Wooldridge
> Duke of Pearson Creek

DAN JACO, M.A., M.S.P.H., *Jefferson City*

Breast Cancer Knowledge Levels and Self-Examination Practices of Missouri Women

Results of a Statewide Survey

CANCER is the second leading cause of death in Missouri and the only one of the three leading causes for which the age-adjusted death rate is increasing. Breast cancer is the leading cause of cancer death in women. In the past ten years, nearly 8,000 Missouri women have died from this disease. The American Cancer Society estimates that 2,300 new cases of breast cancer now develop each year in Missouri. However, only about half of breast cancers are diagnosed while in a localized stage when the potential for cure is greatest.[1]

This report presents a summary of results of a statewide survey of Missouri women's knowledge of and attitudes toward breast cancer and the practice of breast self-examination with particular emphasis on urban-rural differences.

METHODOLOGY

Interviews with 768 women were conducted during a five-week period in the spring of 1981 by the Institute for Community Studies of the University of Missouri-Kansas City. The amount and type of information that could be obtained was limited in large part by the time constraints that telephone surveys generally impose. Interviews averaged from seven to ten minutes.

Although breast cancer continues to be the leading cause of cancer death in women, little baseline data has existed regarding Missouri women's knowledge of breast cancer's risk factors, signs and symptoms and practice of monthly breast self-examination. This report presents results of a descriptive analysis of data obtained in a representative statewide survey of 768 Missouri women conducted in 1981.

At the time this paper was written, Mr. Jaco was Administrator, Cancer Control Program, Missouri Division of Health and Clinical Instructor, Community Health Education Section, Department of Family and Community Medicine, University of Missouri-Columbia. He is now Director, Hospital Information Services, Missouri Hospital Association in Jefferson City.

Women with a previous history of breast cancer were excluded. Those interviewed were from all areas of Missouri. A multi-stage random sampling design was used to draw two independent and equally-sized subsamples of urban and rural women 18 years of age and over. This provided an overall sample size adequate to generalize to the entire adult female population of Missouri with a low probability of error (± 5%) and to permit generalization to each of the subgroups.

Figures shown in tables are percentages based on a total of 768 women and 384 in each of the subsamples. Because the equally-sized subsamples represent an oversampling of rural women when the two samples are combined, a statistically-weighted, overall total is shown and reflects the approximately 70%-30% urban-rural distribution of Missouri's population.

To assess statistically significant differences between urban and rural women on selected knowledge and behavioral dimensions presented in this report, chi square (χ^2) statistics were calculated. A probability of less than 5% ($\rho < .05$) associated with a particular chi square value would suggest strongly that urban and rural women in Missouri are actually different on a particular dimension and not on the basis of a chance statistical configuration.

RESPONDENT PROFILE

Women in the rural sample, as expected, were older, had less income and formal education, and included fewer blacks but a higher proportion of widowed and retired women. Nearly 12% of the urban women compared with about 6% of the rural women were "never married." Urban women were more likely to be employed. The older, less socioeconomically favored rural respondents described their health as excellent less often. The sample appears to over-represent white women and higher income populations with more formal education. This is consistent with the usual biasses of telephone surveys. To the extent that this exists, some of the optimism reflected in the figures relating to knowledge of breast cancer and levels of breast self-examination (BSE) practice may be overestimated.

Results

Cancer was named by nearly four of every five respondents as the most serious health problem women face, with breast cancer being a specific concern of 46% of Missouri women. Although the overall percentages of women responding with "cancer" in the two subsamples were about the same, urban women were more likely to specify breast cancer than their rural counterparts. Cardiovascular disease, the number one cause of death in Missouri and nationally, was named by only 2% of the respondents (Fig. 1).

More than one in five women or about twice the approximately one in 11 risk level expressed personal concern about the possibility of getting breast cancer, again underscoring the psychological impact this disease makes on asymptomatic women. Urban and rural women responded similarly to this item. Despite the perception of its seriousness and a high level of personal concern, about two thirds of the women failed to select from among three estimates — one in ten, one in 50 and one in 100, the one closest to the actual overall statistical risk. Forty-three percent selected estimates considerably below the actual risk.

Nearly 17% of Missouri women may have one or more relatives who have had breast cancer. This corresponds fairly closely to the percentage of women noted earlier who were personally concerned about developing breast cancer. Perhaps because of age, larger families or a better kinship information network, rural women indicated a greater percentage of relatives who have had breast cancer. By applying the percentage of women indicating a mother, sister or both with breast cancer to the number of women 18 years of age and over in Missouri, one can obtain a conservative number of women at high risk of breast cancer — 90,497.

Fewer than half of the women believed certain groups of women have greater risk of breast cancer. Urban women were more likely to respond affirmatively (Table 1). When asked the question, "Do you know if how old you are adds to the risk?", slightly more than half agreed that risk increases with age. Urban women however, appeared more cognizant of this fact while more than a third of the rural sample disagreed that age and risk are related.

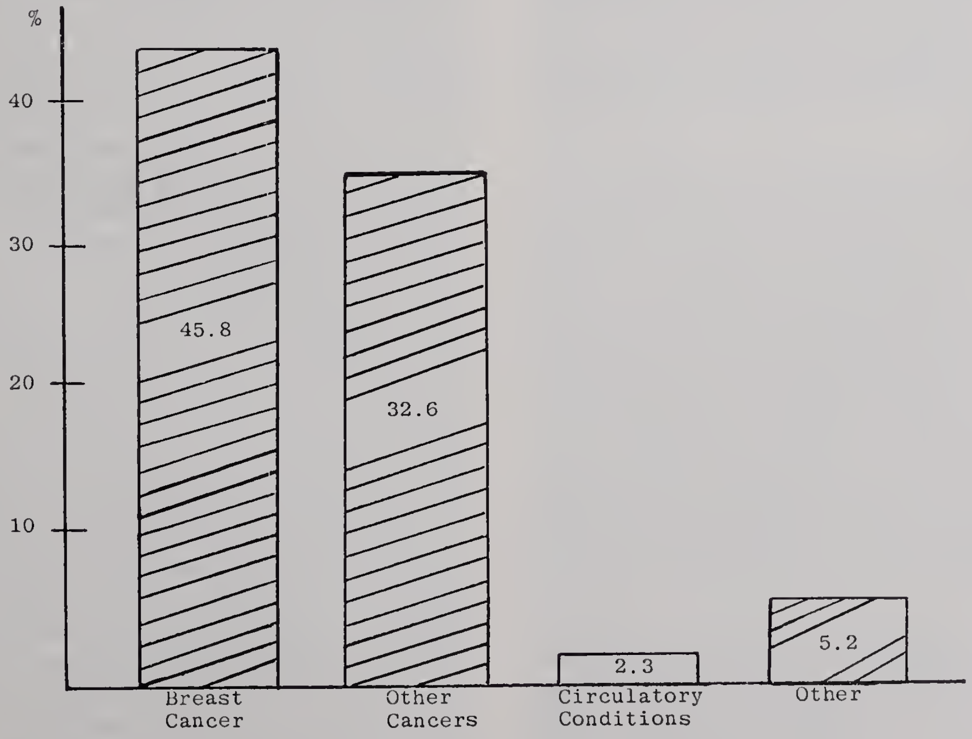

Fig. 1. Perception of Most Serious Health Problem Facing Women

TABLE 1
KNOWLEDGE OF RISK FACTORS

	Percentages			
Category/Response	*Urban (384)*	*Rural (384)*	*Total (768)*	*Weighted*
Some Women at Greater Risk				
Yes	48.2	41.1	44.7	46.1
No	22.4	25.0	23.7	23.2
Don't Know (DK)	29.4	33.9	31.6	30.9
	$\chi^2 = 16.28$ $\rho < = .001$			
Age a Risk Factor (RF)				
Yes	56.5	45.8	51.2	53.5
No	28.9	37.2	33.1	31.3
DK	14.6	16.9	15.8	15.3
	$\chi^2 = 8.98$ $\rho < = .02$			
Other RF's Named				
Correct Additional RF	23.2	16.7	20.0	21.3
Incorrect RF	28.4	37.0	32.7	30.9
DK	48.4	46.3	47.3	47.8
	$\chi^2 = 8.59$ $\rho < = .02$			

Only one in five women could name a factor in addition to age that would be considered a risk factor for breast cancer. The accepted correct responses include advanced age; personal history of breast cancer; history of breast cancer in maternal or paternal grandmother, father's sister, or mother's sister; history of cystic disease; birth of first baby after age 30; nulliparity; early menarche; late menopause; excessive exposure to ionizing radiation; history of endometrial, ovarian or colon cancer; large body size (obesity); estrogen replacement therapy.[2] It should be acknowledged, however, that the universally-accepted risk factors at present are limited to family or personal history of breast cancer and advancing age.[3]

The urban sample was slightly superior in identifying risk-factors. Moreover, rural women provided incorrect responses, more often, while the percentages of "don't knows" were similar. Rural women were significantly more likely to believe the myth that a bruise or a blow to the breast can cause cancer. Nevertheless, a high degree of acceptance of this misconception apparently exists among Missouri women (43% overall).

Knowledge of signs and symptoms appeared to be greater overall than knowledge of risk factors. More than 90% said a lump is the most common symptom of breast cancer while 83% were aware that most breast lumps are not cancerous. But the ability to recall accurately other symptoms dropped off significantly (to about half). Of those who could identify symptoms other than lumps, most gave only one additional response. Rural-urban differences could not be considered significant on these dimensions.

It was encouraging to learn that all but about 4% of Missouri women would go immediately to a physician if a lump were found in the breast. Equally heartening, nearly the entire sample accepted the value of early detection in improving chances of cure from breast cancer. About three in five women had been examined for breast and cervical cancer in the previous 12 months. However, rural women did not reach the same levels of testing as their urban counterparts.

Three fourths of the women sampled indicated that they examined their own breasts, with virtually no urban-rural differences (Table 2). However, as more detailed questions were asked about frequency, timing and amount of time spent relative to examining their breasts, the percentage of responses consistent with appropriate practice of BSE dropped considerably. For example, when asked if the time of month was important, less than half of those who said they examined their breasts said yes. However, about four in five of those who indicated BSE gave an estimate of two minutes or more in relation to time spent. Converting the previous four questions into a simple scale item based on the number of acceptable responses per individual, an estimate of the percentage of women appropriately practicing BSE can be inferred. Table 2 suggests that only about one in five Missouri women (21%) is correctly practicing monthly BSE. Applied statewide, nearly one and a half million adult women in Missouri either do not practice monthly BSE or do so inadequately. Rural-urban differences here are relatively slight.

TABLE 2
PRACTICE OF BREAST SELF-EXAMINATION

	Percentages			
Category/Response	*Urban (384)*	*Rural (384)*	*Total (768)*	*Weighted*
Examine Own Breasts				
Yes	76.3	74.5	75.4	75.8
No	23.7	25.5	24.6	24.2
	$\chi^2 = 0.34\ .80<\rho<.90$			
Frequency				
Monthly	49.5	48.2	48.8	49.1
Less than Monthly	25.5	23.2	24.4	24.8
Don't Know (DK)	1.3	3.1	2.2	1.9
NA	23.7	25.5	24.6	24.2
Time of Month Important				
Yes	37.8	30.5	34.1	35.7
No	30.2	34.1	32.2	31.3
DK	8.3	9.9	9.8	8.8
NA	23.7	2.55	24.6	24.2
Time Spent				
Less Than Two Minutes	10.7	7.3	9.0	9.7
Two Minutes or More	62.5	56.8	59.6	60.9
DK	3.1	10.4	6.8	5.2
NA	23.7	25.5	24.6	24.2
BSE Scale				
None or One	27.1	30.7	28.9	28.1
Two	18.8	19.8	19.3	19.1
Three	31.5	32.8	32.2	31.9
Four	22.7	16.7	19.7	21.0
	$\chi^2 = 4.58\ .20<\rho<.30$			

Respondents were also queried regarding their knowledge of proper BSE techniques. Similar to the proportion who said they examined their breasts, more than 76% feel they know the proper techniques of BSE. When asked to describe the techniques, however, the average score was only 2.8 out of a possible 9.0 (Table 3).

Almost half of those in the sample indicated having been taught the technique with the percentage notably higher in the urban subsample. Among those taught, physicians were the most cited by far as the teachers. Confidence in doing BSE appeared high in those who had been taught. Overwhelmingly, early detection was the advantage given most for the practice of BSE. Second most frequent was the importance of being able to detect a cancer but without specific acknowledgement of early detection. Only 1% of the entire sample said BSE had no advantages. Asked if the practice of BSE posed any disadvantage, only about 16% identified such factors as unnecessary worry about breast cancer and feelings of incompetence relating to their inability to perform BSE properly.

Almost two thirds of the women were unable to name a diagnostic test used for breast cancer. Although more successful, considerably fewer than half the urban women were able to name a test. Fewer than one in five of all women named mammogram or x-ray with rural women mentioning a biopsy more often. In general, however, knowledge of diagnostic tests was not high in either group.

When asked, "Other than from your physician, where do you get information about breast cancer that you feel you can rely on?", the most cited sources were books, magazines and other mass media. This fact underscores the significance of the plethora of media coverage of breast cancer as well as the need to maintain accurate and high quality information about breast cancer that is made available for public consumption.[4] Interestingly, this pattern was slightly more pronounced in the rural sample. The urban sample was more likely by about two to one to insist that physicians are the only reliable source.

DISCUSSION

Cancer was named by nearly four of every five adult women in the survey as the most serious health problem women face. For nearly half of all women in Missouri, breast cancer is their number

TABLE 3
KNOWLEDGE OF CORRECT TECHNIQUES OF BREAST SELF-EXAMINATION

Category/Response	*Urban (384)*	*Rural (384)*	*Total (768)*	*Weighted*
	Percentages			
Claim to Know Techniques				
Yes	80.5	65.9	73.2	76.3
No	19.5	34.1	26.8	23.7
Description Completeness Score (1)				
One	5.2	6.5	5.9	5.6
Two	25.0	15.1	20.1	22.1
Three	29.9	14.6	22.3	25.5
Four	8.6	8.9	8.7	8.7
Five or More	3.9	6.1	4.8	4.5
Refused or DK	7.8	15.1	11.5	9.9
NA	19.5	34.1	26.8	23.7
Average (2)	2.8	2.9	2.9	2.8

(1) Based on nine point total.
(2) Based on respondents who said "yes" to previous questions.

one health fear. These results compare similarly with those in national studies showing breast cancer as the foremost health fear of American women.[5]

Although breast cancer is the leading cause of cancer death in women, cancer is not the leading cause of death in women overall. The tremendous concern women apparently have about cancer (breast cancer in particular) says something significant about the psychological impact the threat of cancer imposes on women in our culture as well as the intensity of coverage the media have accorded the topic of breast cancer during the past seven to eight years.

For a disease that concerns women so deeply, one would hope for a higher level of knowledge of the magnitude of breast cancer, its risk factors and signs and symptoms, and greater and more appropriate practice of monthly breast self-examination. In many instances, the findings were even less encouraging for women from rural areas of Missouri in comparison with their generally younger and more socioeconomically-favored urban counterparts. However, an intervening factor that may be lacking for both sets of women is a sense of personal susceptibility. Indeed, only slightly more than one in five women in this survey, albeit a proportion twice the expected one in 11 risk, indicated personal anxiety about getting breast cancer.

A woman's awareness of risk factors is an important weapon in her cancer prevention arsenal. But the notion that some groups of women are at higher risk than others does not in itself appear to be well understood by about half the respondents.

Asked if certain groups of women have higher risk of breast cancer than others, fewer than half said yes. Only half agreed with the follow-up question asking if risk increases with age, with urban women being somewhat more knowledgeable about this item. Another follow-up question asked the respondent to identify other possible risk factors; only one in five could provide an additional factor consistent with present medical information.

Interestingly, while urban women were slightly more successful in naming another factor, rural women offered a higher percentage of *incorrect* responses. Combining this finding for rural women with the fact that they were also more likely to believe that a bruise or blow to the breast can cause cancer suggests the possibility that rural women may not only have less information than urban women but may also harbor more misconceptions relating to breast cancer. If so, it is important to consider this element in designing educational strategies for reaching rural Missouri women more effectively.

Nearly the entire sample (98%) believes that early detection of breast cancer improves chances of cure. When asked later if there are any advantages to practicing BSE, about two thirds gave a response indicating its role in early detection. It would appear that the American Cancer Society and others have been effective in Missouri in educating at least the female public about the value of early detection in breast cancer. Yet, it is interesting that a third of the women did not specify early detection when asked about the advantages of BSE. Failure to make that association may help to explain to some degree the lack of motivation in some women to practice BSE.

The acceptability of BSE would appear to be high; three fourths of the respondents admitted to examining their own breasts. However, as more detailed information was sought regarding the frequency, timing, time spent and techniques employed, it could be inferred that no more than 21% of adult Missouri women correctly practice monthly BSE.

Nevertheless, 76% of Missouri women seem to feel that they know the proper techniques. As further verification of the respondents' knowledge of BSE techniques, they were asked in open-ended fashion to describe the technique. Prior to the survey, a nine-point system was constructed to score the completeness of the description given. The average score was only 2.8 for women who had said they knew the proper technique.

Thus, a high level of acceptability exists but without the necessary knowledge to effect the appropriate behavior in many cases, although the low overall score found for respondent's descriptions of the technique may reflect in part differences in verbal ability as well as how much respondents really knew.

In addition to their more obvious implications, these results point to the inadequacy of using simply the "yes or no" response to the question, "Do you practice BSE or monthly BSE?" as a valid indicator of women's practice of BSE. A recently-published study[6] did exactly that, using the response as an independent variable relating BSE to early detection, tumor size at diagnosis and degree of spread and found no relationship. The article was given considerable attention by the journal in which it appeared, perhaps in part because of its contrary findings. However, similar uses of BSE as an independent variable have yielded positive relationships to early detection of breast tumors more often than not.[7-9] It may be that the discrepancies in such studies are due in part to the unsophisticated and relatively crude measures employed to represent the correct practice of BSE[10] and that, perhaps, a multifaceted measure of BSE practice like that shown here would be more appropriate in future studies in which more direct means of confirmation are unavailable.

The weight of available evidence favors the efficacy of monthly BSE and the practice is strongly advocated by the American Cancer Society[1] and National Cancer Institute (NCI).[3] In fact, NCI plans to implement a national program to train hospital nurses in appropriate techniques of instructing hospitalized female patients in BSE.[11] Nevertheless, BSE's effectiveness as an early detection technique has been challenged,[12] particularly as a stand-alone detection measure. Certainly, it should not be viewed as a replacement for periodic physical examination by a physician or nurse trained to perform such examinations. Moreover, putting cost and radiation exposure issues aside for the moment, BSE does not confer the tremendous advantage of mammography in locating small, impalpable tumors. These have been well demonstrated by the centers comprising the national Breast Cancer Detection Demonstration Project of which the Cancer Research Center in Columbia was one of the most successful.[13]

It seems prudent with our present knowledge to regard BSE as a significant adjuvant to early cancer detection[14] and to continue to attempt to equip women with the appropriate knowledge and techniques to act in concert with their physicians toward improved survival from one of the major causes of death in women.

Finally, in addition to their value as a planning tool, results of this survey provide a potential set of baseline data. It is hoped a follow-up survey can also be conducted in the next few years to help assess whether or not the considerable efforts of the State of Missouri, the American Cancer Society and private physicians to educate Missouri women about breast cancer are succeeding.

Acknowledgements: The author wishes to acknowledge the contributions of Constance Osgood, Ph.D.; Carol Jaco, R.N., B.S.N., M.S.P.H.; Antoinette Brooke, M.P.H.; Mark Van Tuinen, Ph.D.; and Ms. Carol Field and John Chapman in the development and conduct of the study and analysis of data as well as the support of Pat Thomas; Mohammad Akhter, M.D., M.P.H.; H. Denny Donnell, M.D., M.P.H.; and Ennis McClanahan, Director of the Bureau of Chronic Diseases.

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RICHARD B. WHITING, M.D., THOMAS E. DREISINGER, Ph.D.
and C. ABBOTT, P.T., *Columbia*

Clinical Use of Exercise Testing In Handicapped Patients

For several years, we have been involved in a wheelchair exercise program.[1-6] Initially, this interest was purely research in nature and resulted in the development of a stationary wheelchair device to allow accurate measurement of work performed and reproducible workloads, i.e., a wheelchair ergometer. The next phase of work was devoted to measurements of heart rate, blood pressure and oxygen consumption at various workloads in normal subjects and, also, in a group of handicapped individuals who regularly travel by wheelchair. This information was then used to formulate an exercise protocol using the wheelchair ergometer and a series of increasing workloads.

Workloads were selected in order to simulate the increments in oxygen consumption that occur during treadmill testing using the Bruce protocol in able-bodied subjects. The Bruce protocol uses three-minute stages of exercise, each of which requires an increment of approximately 2 to 3 METS in oxygen consumption. One MET is the oxygen requirement for a given person in the basal, resting state. This is approximately 3.5 cc of oxygen per kilogram of body weight per minute. Three METS then is approximately 10 cc of oxygen consumed per kilogram of body weight per minute and is roughly equivalent to walking a ten-degree grade uphill at 1.7 miles per hour. For our purposes, a series of three-minute exercise periods in the wheelchair with increasing wheeling resistance was devised so that approximately the same number of METS (or oxygen consumption) were required per stage as ordinarily expected for treadmill walking on the Bruce protocol. This wheelchair exercise protocol was then to be used as a standard series of workloads in future studies.

A separate aspect of this research has been devoted to proving that regular exercise in a standard wheelchair can be used to improve wheeling capacity and physical fitness. We believe, for example, that physical training of handicapped patients can be accomplished through regular wheelchair exercise even by subjects who regularly travel by a manual wheelchair. This, of course, has great implications in rehabilitation medicine and in the likelihood of a more active lifestyle for handicapped individuals.

This report is intended to describe our early work with the clinical use of wheelchair exercise. An arm crank and stationary bicycle work have been added to our program clinically for subjects who have not required and never will require wheelchair travel as, for example, a subject with hemiparesis.

This article reports the use of exercise testing in handicapped subjects to determine work capacity and the safety of exercise. Arm crank, bicycle, and wheelchair exercise studies are described for a few selected cases. Stress testing in a clinical setting is recommended as an important adjunct to any program of rehabilitation that requires physical work by the handicapped patient.

The authors are from the Departments of Medicine and Physical Therapy, University of Missouri-Columbia School of Medicine.

Methods and Facilities

These studies were performed in the exercise laboratory at Howard A. Rusk Rehabilitation Hospital, a part of the University of Missouri-Columbia Health Sciences Center. The exercise laboratory is fully equipped, including monitoring and emergency resusitative equipment. Exercise tests are performed with physician guidance and continuous electrocardiographic and blood pressure monitoring.

Bicycle testing is obtained by using a Monarck model No. 668 stationary bicycle with increasing workloads of 0, 75, 150, 250, etc. kilogram/meters per minute (kg-m/min). Arm crank ergometry is performed by using a Monarck Rehabilitation Trainer arm crank ergometer with workloads of 0, 50, 100, 150, etc. kgm/min.

TABLE 1
BICYCLE EXERCISE TEST

Case #1

Stage	*Rest*	*I*	*II*	*III*	*IV*	*V*	*VI*
Workload (kg-m/min)	0	0	75	150	225	300	375
Heart rate	82	90	90	93	100*	118	110†
Blood pressure	110/80	120/80	120/80	125/80	130/78	140/78	130/80

* Few ventricular premature beats
† Subject stopped at 50 seconds of this stage

The results of exercise testing in this patient are recorded. Workloads are listed in kilogram-meters per minute (kg-m/min).

Wheelchair exercise testing is performed on a device developed and built for the University of Missouri. Workloads for wheelchair testing are 0, 25, 50, 75, 100 or more kgm/min. At the present time, our testing protocol for bicycle, arm crank or wheelchair exercise involves three-minute stages of the increasing workload separated by two-minute rest periods. In all cases, the subject is encouraged to continue exercising as long as possible. Therefore, each test can be considered a subjective or symptomatic maximum for the given exercise performed.

Heart rate and rhythm are constantly monitored and the blood pressure is determined by an arm cuff at the end of each stage during the test. Once the subject has completed the stress test, blood pressure, heart rate and an electrocardiographic V4 rhythm strip are recorded each minute for five minutes.

The results of the exercise test include the duration of exercise, the workload tolerated, electrocardiographic response to exercise (both rhythm and ST segment changes), heart rate and blood pressure that are then available to the rehabilitation physician and physical therapist. This information is extremely helpful in formulating a strenuous, yet physically safe, rehabilitation program.

Case Reports

Case #1 A 47-year-old man had rheumatic heart disease and a previous aortic valve replacement. Eight months prior to the exercise test, he suffered an acute cerebral vascular accident with residual right hemiparesis. He was able to ambulate with the use of a cane and was admitted to Rusk Rehabilitation Hospital to improve his physical capabilities. After some initial training and practice, he was able to ride a stationary bicycle and he planned to workout regularly to improve physical fitness. Due to his underlying cardiac condition as well as neurologic problem, a bicycle stress test was requested as an index of the safety of exercise and as a guide to exercise recommendations. At the time of the test, this patient was regularly taking digoxin and coumadin but no other cardiac medications. The results of his bicycle test are shown in Table 1.

Comment

As expected, this man demonstrated a steady increase of both heart rate and systolic blood pressure with increasing workload. The heart rate response, however, is considerably less than expected. Since this man was not on beta-adrenergic blocker, the poor increase of heart rate with increasing workload may reflect some sinus node disease. A few single focus ventricular premature contractions were observed during exercise but no serious arrhythmias. The patient tolerated high workloads quite well so he was placed on a training program at loads up to 300 kgm/min.

Case #2 A 28-year-old man suffered spinal cord injury at the cervical 5-6 level approximately six months before his exercise test. At the time of testing, this patient had made substantial progress in rehabilitation and was beginning to transfer from chair to bed and dress himself. He also was starting to wheel a manual wheelchair. An arm crank exercise test was used to judge his upper extremity work capacity. The results of this test are shown in Table 2.

Comment

This patient stopped exercising at two minutes of stage 3 due to arm fatigue. There were no rhythm or electrocardiographic abnormalities. This patient is quite typical of our experience with quadriplegics with a low blood pressure in the seated position and a definite tendency to a further fall of blood pressure with increasing workload. Like the majority of these patients, this man was not symptomatic in spite of sitting up with a blood pressure of 60/40. An arm crank workout for

TABLE 2
ARM CRANK EXERCISE TEST
Case #2

Stage	*Rest*	*I*	*II*	*III*
Workload (kg-m/min)	0	0	50	100
Heart Rate	80	81	100	108
Blood Pressure	80/50	75/45	65/40	60/40

The results of exercise testing in this patient are recorded. Note the fall of blood pressure during exercise (see text).

TABLE 3
WHEELCHAIR EXERCISE TEST
Case #3

Stage	*Rest*	*I*	*II*
Workload (kg-m/min)	0	0	25
Heart rate	90	100	110
Blood pressure	130/70	145/70	145/70

The results of exercise testing in Case #3. This was not a subjective maximum test as this patient was stopped at a target heart rate of 110 beats per minute (approximately 60% of this man's predicted maximum heart rate).

this man would have to be limited to light loads such as 50 kgm/min, at least until such time as improved exercise capacity would be achieved.

Case #3 A 48-year-old man had diabetes mellitus for nine years and had had two myocardial infarctions. This patient had overt congestive heart failure for approximately one year controlled with digoxin and diuretics. His clinical status became complicated during the year prior to exercise testing by severe peripheral atherosclerosis that required a right above-the-knee amputation. He has also had a cerebral vascular accident with mild residual impairment of motor function in the right arm.

This patient discontinued his medications and returned two weeks later to the Medical Center in severe congestive heart failure. The cardiac failure was well controlled by resuming digoxin and furosemide. However, the admission electrocardiogram showed ST segment depression in the anterior-lateral leads and the myocardial infarction of creatine kinase (MB-CK) was elevated. A technetium pyrophosphate scan confirmed a small myocardial infarction.

An exercise test was desired to judge this patient's cardiovascular reserve as a guide to continued rehabilitation and to assess his potential risk of arrhythmias. He was exercised in a stationary wheelchair and the test was terminated by the examiner at a heart rate of 110 beats per minute since the patient was only four weeks past a myocardial infarction. The results of this test are shown in Table 3.

TABLE 4
WHEELCHAIR EXERCISE TEST
Case #4

Stage	*Rest*	*I*	*II*
Workload (kg-m/min)	0	0	25
Heart rate	100	122	118
Blood pressure	80/50	75/50	75/50*

* Subject stopped at 1 min 30 sec of this stage.

Results of exercise testing in quadriplegic patient in Case #4.

COMMENT

This patient had no discomfort and actually appeared as though he were able to perform more exercise. There were no ectopic beats. There was no significant shift of the ST segment, although this particular test could not have been used as an index of myocardial ischemia since the patient was receiving digoxin. Based on his performance, it was felt that this man could safely work out at the 25 kgm/min level and that he should be tested to his own symptom-limited maximum after another four to six weeks.

Case #4 A 17-year-old boy was involved in a motor vehicle accident three months prior to exercise testing. He sustained a comminuted fracture of C-6 with cord damage at that level resulting in partial quadriplegia. At the time of exercise testing, he was able to dress and feed himself, but he still had light headedness if he sat up for extended periods without an abdominal binder. This young man was interested in building up his arms to improve self-reliance. He also wanted to become involved in sport activities. The results of his wheelchair exercise test are shown in Table 4.

COMMENT

This patient is obviously quite limited in exercise capacity. Following this stress, the blood pressure remained low and actually declined to 60/40 with mild nausea and pallor. His legs, therefore, were elevated and the blood pressure immediately increased to 95/60 and then 105/70. This particular test was done without the abdominal binder at the patient's request since he felt that he was becoming independent of that device. Based on his exercise test, he was urged to continue using the binder and his rehabilitation program was maintained at light loads as tolerated during the test.

DISCUSSION

There is considerable work, both isometric and dynamic in nature, required of a patient during a rehabilitation program. The physician and the physical therapist want the patient to perform as much as possible within the guides of safety in order to maximize the rehabilitation program. In many cases, the patients themselves are very well motivated to exercise and could easily work to excess in an effort to improve their physical condition. Many of these patients have an undetermined risk associated with strenuous effort, for example, patients with previous cerebral vascular accident, neurologic trauma or any disability coupled with cardiovascular compromise during vigorous exertion. It, therefore, seems appropriate to test such patients in a laboratory setting before encouraging unrestrained exercise. It is surprising how seldom handicapped subjects are tested for their capacity or for determination of safety in training programs.

Performing these exercise tests with the subjects being encouraged to continue as long as possible may be considered hazardous. Several subjects referred to us were considered high-risk patients for exercise by reason of cerebral-vascular or cardiovascular lesions. However, the failure to test these patients means that either they can't be adequately rehabilitated or that the process of rehabilitation will be conducted without knowledge of the patient's blood pressure, heart rate, electrocardiographic or rhythm responses. Our experience indicates cautious stress testing under laboratory conditions as described in this article is, in fact, quite safe. Furthermore, the physical therapists have been extremely enthusiastic about their patients being tested as a guide during the rehabilitation program.

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In Memoriam

Louis H. Kohler, M.D., 100 N. Euclid Ave., St. Louis 63108; graduate of St. Louis University, 1924; member of St. Louis Metropolitan Medical Society; aged 85; died June 4, 1983.

Jack C. Vincent, M.D., 2003 W. 67th Terrace, Shawnee Mission, Kan. 66208; graduate of the University of Tennessee, 1940; member of Jackson County Medical Society; aged 68; died June 7, 1983.

Walter E. Abell, M.D., 6261 Reber Place, St. Louis 63139; graduate of St. Louis College of Physicians and Surgeons, 1920; member of St. Louis Metropolitan Medical Society; aged 88; died June 10, 1983.

William W. Gist, M.D., Raytown Clinic, 9406 E. 63rd St., Kansas City 64113; graduate of Washington University, 1934; member of Jackson County Medical Society; aged 74; died June 18, 1983.

Grandison D. Royston, M.D., Rt. 4, Box 330H, Hope, Ark. 71801; graduate of Washington University, 1907; member of St. Louis Metropolitan Medical Society; aged 98, died June 23, 1983.

Henry Rosenfeld, M.D., 1209 Bethesda, St. Louis 63117; graduate of St. Louis University, 1920; member of St. Louis Metropolitan Medical Society; aged 86, died June 26, 1983.

Ottis D. Seabaugh, M.D., 1512 Bedford Forge Dr., Chesterfield 63107; graduate of St. Louis University 1925; member of St. Louis Metropolitan Medical Society; aged 84, died July 3, 1983.

Fred C. Coller, M.D., 1721 E. Camino Alto, Springfield 65804; graduate of St. Louis University, 1945; member of Greene County Medical Society; aged 62, died July 8, 1983.

J. Harold Ryan, M.D., 2901 Lover Lane, St. Joseph 64506; graduate of St. Louis University, 1924; member of Buchanan County Medical Society; aged 84, died July 13, 1983.

Charles W. Griege, M.D., 525 Fox Ridge Rd., St. Louis 63131; graduate of Columbia University, 1955; member of St. Louis Metropolitan Medical Society; aged 53, died July 20, 1983.

James Omer Smith, M.D., Medical Building, Hospital Drive, Clinton 64735; graduate of St. Louis University, 1932; member of Henry County Medical Society; aged 81, died July 25, 1983.

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President's Message

Who Benefits? Who Loses?

Editorials should reflect opinions of significant problems. Sometimes a simple statement of the problem is helpful; more often some association and reminiscence and, perhaps, extrapolation can indicate trends.

Under TEFRA legislation (1982) delayed implementation of each phase will insidiously accomplish changes that would not be allowed if done quickly. It is a complex system of regulating Federal expenditures, making them more accountable in finer detail. Most physicians who can recall the difficulty in making collections from patients during the depression days were glad to see third-party payments assist through insurance systems. Patients have progressively been taught that they are not personally responsible for their medical expenses. Hospitals have developed into major business institutions rather than remaining simple eleemosynary institutions, and they have extended to provide "state of the art" expensive technical advances available to the physicans who are now managing patients' disabilities more accurately, more promptly and with better recovery.

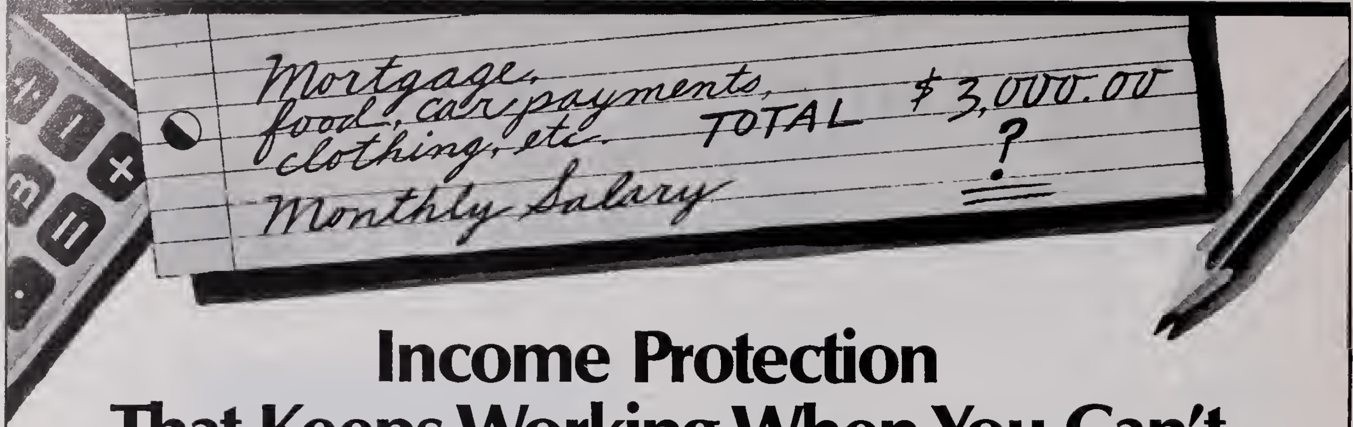
Ronald A. Youmans, M.D.

The diagnosis related grouping (DRG) is a part of the regulations of TEFRA. Though the government has had a trial of this system for a year in New Jersey without major complaints, the system is still quite generous. A complex system of charges across the country will initially be inaugurated, with differing rates even for urban versus rural practices within various regions of the country. Within several years, they will become a single nationwide charge system. With previous experience with Federal fundings, it's an easy speculation that if monies are reduced, there will be a subsequent reduction for services provided. If funds are short, the hospital-business cannot be expected to run deficit "out of the goodness of its heart" although physicians have been expected to do this for years. Those most affected by such a fund shortage would include the older patients, the chronically ill and the handicapped. Younger working patients and private-pay patients would carry a part of this as "cost-shifting" that would undoubtably occur, as it has with the Medicaid and Medicare programs.

On May 16, House Commerce Health Sub-Committee Chairman Waxman (D-Cal.) and the ranking Republican member, Edward Maddigan (R-Ill.), introduced HR 3021, including the possibility that states may use Medicare programs for the unemployed. Obviously, unemployed persons still require health care and, if the Federal Government is continuing to assume a responsibility for "providing health care for all citizens," this is very reasonable. This would move monies from the retired-age group to those in the working-age group. Likewise, less money is being allotted for the renal dialysis program. It too will save money, but I suspect there will be a different set of rules for selecting candidates for renal dialysis when the balance sheets are examined.

I like to think of illnesses as being in the following three different grades of significance: (a) A younger and employed population usually do not have major illnesses but rather have incidental trauma such as factured bones, infections that are promptly treated; (b) Chronic diseases as those that require periodic reevaluation by the physician including such diseases as diabetes, collogen disorders, arthritis and hypertension. This group is generally a little older than those in the first category and, obviously, incurs greater expenses per patient; (c) Catastrophic illnesses such as advanced cancer, stroke without satisfactory recovery, and advanced degenerative diseases such as multiple sclerosis that obviously require enormous amounts of money per patient.

When funds become scarce, the older persons, those with chronic disorders, and the handicapped will get least support.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MSMA Auxiliary

Mrs. Donald Sanders
President

It is my pleasure to introduce Mrs. Stephen Vilmer as my guest columnist this month. Mrs. Vilmer is Chairman of the MSMA Auxiliary Legislation Committee and sincerely dedicated to this assignment.

"Those Were The Days, My Friend —"

Yes, just like the song, "Those Were The Days, My Friend, We Thought They'd Never End —," medicine as it existed 30 years ago is unrecognizable in today's society. No longer can a physician just practice medicine. He must be a legal expert as well as being politically informed at all times. A physician's practice is now controlled in large part by governmental agencies and the physician of the 1980s is fighting a constant battle to keep these governmental controls at a minimum.

Because of the physicians' "problems" in the legislative arena, the physicians and their spouses *must* keep informed on all areas of legislation if medicine is to survive as we know it today.

There are many ways in which physicians and their spouses can help in the legislative process. One is to become a "Key Contact" person. The first step is to know your legislators! Here are a few suggestions:

1. Invite your legislator to lunch.
2. Invite your legislator to speak at a local medical society meeting.
3. Write letters to your legislator concerning pending issues.
4. Call your legislator to discuss issues of interest or concern.
5. Ask mutual friends for a personal introduction to your legislator.

After your initial meeting with your legislator, the next step is to establish rapport — get to know the legislator personally. Find out about his/her background, e.g., career before coming to the legislature, needs of the constituency, committee memberships. Ask about his/her stand on issues and try to find areas of agreement. Once rapport is established, contact should be made on a regular basis to offer assistance on bills.

Members of the MSMA Auxiliary are now becoming actively involved in the MSMA "Key Contact" program with the hope of adding to the effectiveness of this special legislation program.

So, instead of lamenting, "Those Were The Days, My Friend —," please become involved. Remember, *"Legislation Is Up To You,"* and *your* and *our* involvement can help tip the scales for the benefit of medicine and health care.

Mrs. Stephen Vilmer
Chairman, Legislation Committee

Special Book Review

'From Shamans to Specialists, History of Medicine and Health Care in Jackson County, Missouri'

One of my most enjoyable duties as Associate Editor of "Missouri Medicine" has been to review *From Shamans to Specialists, a History of Medicine and Health Care in Jackson County, Missouri,* a comprehensive history of medicine and health care in Jackson County, Missouri.

The book, 240 pages in hardback with five chapters, was the primary centennial project of the Jackson County Medical Society (JCMS) which observed its 100th anniversary in 1981.

In 1979, during the presidency of Donald E. McIntosh, M.D., the Medical Society authorized the work in anticipation of the Society's centenary. The JCMS contracted with three professional historians who collaborated in the research, writing and collection of graphics.

Extremely readable, totally professional in form, and intellectually sound (334 footnotes), this book should be on the *must read* list of anyone interested in the evolution of health care not only in Western Missouri but also in all of the state.

If the history of science and medicine in Western Missouri is the entrée of this historical fete, then the fascinating parallel chronology of the social, economic and political developments of the local environs must be the hors d'oeuvres. Both are served up in copious quantities, guaranteed to satiate any intellectual appetite. The price of the meal is only a curiosity about the past.

The trio of authors, Barbara Gorman, Richard McKenzie and Theodore Wilson begin their voyage through the pages of Missouri medical history with a visit with the Indian Shamans (medical men) who inhabited what is now Jackson County between the 14th and 18th centuries. Their journey ends 200 pages later with a philosophical discussion on the realities of a pluralistic health care delivery system and who has a "right to die" without medical interference.

The three historians skillfully build their narrative upon vignettes of events and cameo appearances of individuals who were responsible for the events.

Throughout the stage of history, wars have provided man with an opportunity to play out roles of both barbarism and saintly humanitarianism. The civil war was no exception and an examination of the events at the Battle of Westport, the largest land battle west of the Mississippi, offers no better proof. "It was as pretty a morning as you ever laid eyes on," reminisced former slave George (Fish) Davis, "By afternoon you couldn't see the sun for the smoke from the artillery. After the battle, the hills were covered with dead men. It was terrible. Terrible." Amid this carnage, the surgeons of Jackson County tended to the casualties without regard to the politics of the injured or the user of the weapons inflicting the injury. Local women likewise treated the wounded and dying without regard for politics when surgeons were not available. Their courage was epic.

Attempts to raise the quality of health care in Jackson County from the level of outright quackery, folk healing, and irregular homeopathy mirrored what was occurring across the United States during the post-civil war boom. A long-time goal of physicians was a code of professional ethics, and in 1881, the newly reorganized Jackson County Medical Society provided the mileau that would nurture this reform. There had been three predecessors of the Jackson County Medical Society before this reorganization in 1881. In 1860, the Kansas City Medical Society appeared within a few months after the publication of the *Kansas City Medical and Surgical Review*, but soon both the *Review* and the Medical Society became early casualities of the Civil War not to be revived until 1869. Five years later, in 1874, the Kansas City District Medical Society emerged. Sometime in the 1870s, the Homeopathic Medical Society of Kansas City began to hold meetings.

Dr. Calvin D. McDonald was elected president of the newly restructured JCMS in 1881. The exact lineage of this nascent society will probably never be known because the minutes of JCMS were destroyed in a fire in 1891, forever clouding history up to that time. That same year, the JCMS was able to secure a corporate charter from the state of Missouri and adopted its first formal set of by-laws.

The new JCMS worked diligently on two levels to raise the quality of community health care: scientific presentations for sharing "state of the art messages" and the enforcement of their code of ethics with an eye toward ridding their community of quacks and "irregulars."

The authors accurately record the great difficulties encountered in establishing Jackson County's early hospitals, difficulties that are testified to by the disestablishment of some of these hospitals rapidly on the heels of their establishment.

Almost as if to anticipate TEFRA, the bookkeepers of the German hospital were pleased that the hospital's cost of treating its patients was less than 70¢ per patient-day in 1887, and by 1900, its administration could still boast that operational costs were a mere 94¢ per patient-day.

Not only were fiscal affairs of the late 1800s recorded, but also the difficulties that both black physicians and patients encountered in a white medical community that was less than happy to have them. To the credit of the authors, this sad epic was faithfully recorded, punctuated by the achievements of a few black visionaries who dared to confront their circumstances. This black-white dichotomy was not unique to Kansas City — it simply reflected the mood of the nation. Its passing underlines clearly the fact that most Americans will respond positively to what is fair and right and that there is no room for racial prejudice in medicine.

Political interference in matters of Public Health was not unknown to the Kansas City of 1918-1919, and the influenza pandemic of those years offered sinister testimony to what happens when an apathetic citizenry elects a self-serving corrupt city administration. (What makes this book so readable are the dimples and the warts on the faces of the characters who parade through its pages.)

The old adage "the more things change, the more they stay the same" appears and reappears as the authors look at Medicine's interface with a wide assortment of social forces after World War I.

National Health Insurance was not only a dream of the liberal 1960s; it was almost born out of several of FDR's alphabet agencies 30 years before the Dallas Book Depository became relegated to that part of our history that was not so shining.

The concerns of contemporary physicians could be very accurately predicted merely by eavesdropping on the conversations of the medical community of the 1930s. Physicians' concerns over the growing roles of hospitals in providing health care did not originate in the early 1980s — it was voiced in 1937 with the advent of hospitalization insurance. The societal-political pressures on psychiatry did not begin in the 1980s — they were present in the 1930s with attacks on prefrontal lobotomy. Skillfully, the authors preview the issues of the 1980s as they unfold the events of the 1930s. They are (and were) the same.

Appropriately, this medical odyssey into the past ends with a chapter entitled "New Problems-New Hopes." It begins with the post World War II period of Harry Truman's racial integration of the Armed Forces and ends with a statement of the acceptance of Kansas City physicians of a pluralistic health care delivery system.

This book, all 240 pages, should be read not only for its wealth of interesting general medical history, but also so that the mistakes of the past become beacons of light along the rocky road that is part of the unknown future.

Bruce Stoliar, M.D.
Associate Editor
Missouri Medicine

("From Shamans to Specialists, History of Medicine and Health Care in Jackson County, Missouri," ($20), may be purchased by writing to the Jackson County Medical Society, 3036 Gillham Road, Kansas City, Mo. 64108.)

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nitrofurantoin	97% 307,785	65% 61,162	7% 59,775	13% 3848	14% 3059	67% 1707	60% 7109	67% 10,830

†Analogous to cephalothin, the primary antibiotic disc used in testing.
Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series, 1981-82.
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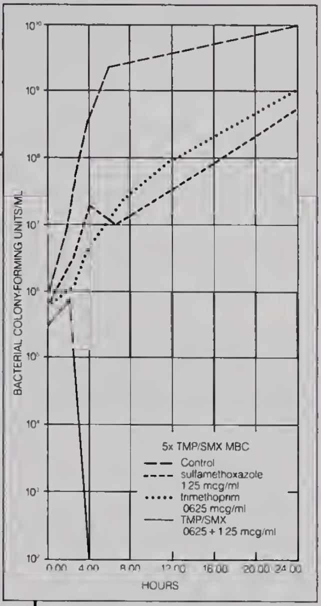

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See next page for references and a summary of product information.

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Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.
Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.
Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.
Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.
Dosage: *Not recommended for infants less than two months of age.*
URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:
Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.
Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.
For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.
ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:
Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.
PNEUMOCYSTIS CARINII PNEUMONITIS:
Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.
Supplied: *Double Strength (DS) tablets*, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 20. *Tablets*, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per tea spoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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Nutley, New Jersey 07110

References:
1. Stone PH, Turi ZG, Muller JE: Efficacy of nifedipine therapy for refractory angina pectoris *Am Heart J* 104 672-681, September 1982.
2. Antman E, Muller J, Goldberg S, et al: Nifedipine therapy for coronary-artery spasm: Experience in 127 patients. *N Engl J Med* 302:1269-1273, June 5, 1980

BRIEF SUMMARY
PROCARDIA® (nifedipine) **CAPSULES** For Oral Use

INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e g , where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is retractory to nitrates and/or adequate doses of beta blockers

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs (See Warnings)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA

WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA Patients with tight aortic stenosis may be at greater risk for such an event

PRECAUTIONS: General: Hypotension: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested Close observation is especially recommended for patients already taking medications that are known to lower blood pressure (See Warnings)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA This edema occurs primarily in the lower extremities and usually responds to diuretic therapy With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents (See Indications and Warnings) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina

Long-acting nitrates. PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers The average increase was 45% Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization

Carcinogenesis, mutagenesis, impairment of fertility When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0 5% Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication Additionally, the following have been reported muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients It remains possible, however, that some or many of these events were drug related Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2% Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0 5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy The relationship to PROCARDIA therapy is uncertain These laboratory abnormalities have rarely been associated with clinical symptoms Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41) The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container

More detailed professional information available on request © 1982, Pfizer Inc

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"I can do things that I couldn't do for 3 yrs. including joining the human race again."

Quotes from an unsolicited letter received by Pfizer from an angina patient. While this patient's experience is representative of many unsolicited comments received, not all patients will respond to Procardia nor will they all respond to the same degree.

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"My daily routine consisted of sitting in my chair trying to stay alive."

"My doctor switched me to PROCARDIA[*] *as soon as it became available. The change in my condition is remarkable."*

"I shop, cook and can plant flowers again."

"I have been able to do volunteer work...and feel needed and useful once again."

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks,[1] taking fewer nitroglycerin tablets,[2] doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).

for the varied faces of angina

PROCARDIA®
(NIFEDIPINE) *Capsules 10 mg*

*Procardia is indicated for the management of:
1) Confirmed vasospastic angina.
2) Angina where the clinical presentation suggests a possible vasospastic component.
3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA *brief summary on adjoining page.*

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J-9043-4 July 1981

American Medical Association
Continuing Medical Education
AWARD

MSMA Members Receive Physician's Recognition Award

Seventy-six MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the period of June-July, 1983.

The award is a voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in MISSOURI MEDICINE as they are received from the AMA.

Steven J. Adler, St. Louis
Ifthekhar Ahmed, Kansas City
John R. Bertuso, Columbia
James S. Bower, Kansas City
Shael S. Bronson, St. Louis
Ray W. Burmeister, St. Louis
Thomas C. Burton, Columbia
William F. Case, Kansas City
J. Michael Conoyer, St. Peters
Joseph A. Corrado, Mexico
Guillermo Couchonnal, Kansas City
Robert M. Crawford, Sullivan
Donald W. Daut, Mexico
Donald J. Di Pasco, Kirkwood
William E. Dorzab, Kansas City
David L. Ellis, Kansas City
Fred D. Fowler, Kansas City
Jerry C. Freeman, Kansas City
Thomas J. Fritzlen, Kansas City
Lanny W. Geary, Kennett
Theodore George, Richmond
David M. Gibson, Kansas City
James D. Gibson, Springfield
Edward Goldsich, Kansas City
Joseph R. Guastello, Kansas City
Thomas H. Hale, St. Louis
Jimmy D. Heath, East Prairie
Stanley Hellerstein, Kansas City
Marijan Herjanic, St. Louis
Karen L. Hoelzer, St. Louis
Samuel D. Hoeper, Grandview
Rosalyn E. Inniss, Kansas City
Prabhakar S. Kamath, Cape Girardeau
Maurice D. Krause, Springfield
Jerold J. Kreisman, St. Louis
Lawrence F. Kuhn, St. Louis
Eileen Lamb, St. Charles
Luis Lau, St. Louis
John T. Lawton, Creve Coeur
Ervin Lipschitz, St. Louis
Curtis W. Long, Butler
Charles M. Luetje, Kansas City
Edwin E. MacGee, Kansas City
George L. McElroy, Jefferson City
Janice K. McGovney, Smithville
James J. McMillen, St. Joseph
W. Kendall McNabney, Kansas City
Thomas M. Moran, Clayton
John L. Morgan, Columbia
Mark W. Moritz, St. Louis
Bin Mou, Nevada
Dwight K. Oxley, Kansas City
Orhan M. Ozmat, St. Louis
Steven B. Perlmutter, St. Louis
George S. Postma, Kansas City
Daniel E. Potts, St. Louis
Richard T. Quick, St. Louis
Cesar Reyes, St. Louis
Robert L. Rogers, Kansas City
William K. Rosen, Springfield
Sherman J. Silber, St. Louis
William D. Soper, Liberty
Donald M. Spencer, Kansas City
Thomas J. Stokes, St. Louis
Dasari Susella, Kansas City
Reynaldo R. Tiojanco, Kansas City
James D. True, Kansas City
Salvador Valera, St. Joseph
Lowell M. Weiner, Kansas City
John S. Whitten, Cape Girardeau
Kathleen M. Williams, Kansas City
Richard F. Williams, Carthage
James A. Wolf, St. Louis
Eugene R. Worth, Springfield
Jerry B. Wurster, Kansas City
John S. Yang, Ste. Genevieve

NEWS About CME Events

The Edward Mallinckrodt Institute of Radiology — Washington University School of Medicine
510 S. Kingshighway, St. Louis 63110
(314) 367-2131
***Contact:* Ronald G. Evens, M.D., Director**

Oct. 10	City-Wide Radiology Conference on "GU-CT" (Mallinckrodt Institute, St. Louis)
Dec. 12	City-Wide Radiology Conference on "Advanced Imaging of the Brain and Spine" (Mallinckrodt Institute, St. Louis)
(1984)	
Jan. 9	City-Wide Radiology Conference (St. Louis University)
Feb. 6	City-Wide Radiology Conference on "CT Chest" (Mallinckrodt Institute, St. Louis)
Mar. 12	City-Wide Radiology Conference on "NMR" (Mallinckrodt Institute, St. Louis)
Apr. 25	Leroy Sante Lecture (St. Louis University)
May 14	City-Wide Radiology Conference on "Angiography and Embolization of Pelvic and Extremity Trauma" (Mallinckrodt Institute, St. Louis)

University of Kansas
Office of Continuing Education
Rainbow at Olathe Blvd., Kansas City 66103
(913) 588-4488
***Contact:* Jan Johnston, Promotion Coordinator**

Sept. 23-25	Management of Low Back Pain (Westin Crown Center Hotel)
Sept. 29-30	Birth Defects (University of Kansas Medical Center)
Sept. 30-Oct. 2	Women in Medicine: Looking Ahead Today (Hyatt Regency Hotel)
Oct. 13-15	38th Annual Postgraduate Course in Internal Medicine (University of Kansas Medical Center)
Oct. 25-26	Medicine and Religion: Superstition, Tradition and Ignorance (University of Kansas Medical Center)

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 367-9673
***Contact:* Loretta Giacoletto, Office of CME**

Oct. 26-Nov. 4	Clinical Allergy for the Practicing Physicians (Paris and Montpellier, France)
Nov. 11-13	Tenth Annual Symposium: Anesthesia and The Geriatric Patient (Contact: Dept. of Anesthesiology — 314-454-2858)

The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

University of Missouri-Columbia School of Medicine
Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
***Contact:* William D. Bradshaw, M.D., Director**

Oct. 6-7	Missouri Perinatal Association Clinical Conference and Meeting (Jefferson City)
Oct. 7-9	Modern Management of Diabetes Mellitus (Tan-Tar-A, Osage Beach)
Oct. 20-22	Fifth Annual Advances in Rheumatology Symposium (Columbia)
Nov. 4, 5	26th Annual Physicians Weekend (Columbia)
Nov. 10-11	Second Annual Missouri Genetic Disease Conference (Tan-Tar-A, Osage Beach)
Dec. 7-9	Advances in Trauma (Westin Crown Center, Kansas City)

Menorah Medical Center
4949 Rockhill Rd., Kansas City 64110
(816) 276-8000
***Contact:* Erich W. Pollak, M.D., Director of Surgical Education, for the following:**

4:00 PM — Basic Sciences to Surgery Seminar
(Monday through Friday)
3:00 PM — Surgical Rounds
(Every Wednesday and Friday)
4:00 PM — Surgical Techniques Seminar
(Every second and fourth Wednesday)
4:45 PM — Morbidity and Mortality Conference
(Every fourth Wednesday)
8:00 AM — Morbidity and Mortality Conference
(Every second Saturday)
7:00 AM — Surgical Grand Rounds
(First and third Thursdays)

***Contact:* David S. Sneid, M.D., Director of Medical Education, for the following:**

9:00 AM — Medicine Staff Conference
(First, third and fourth Tuesdays)

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
Contact: Alta Bingham

Sept. 23-24	The Long Weekend: Neurology, Immunology and Dermatology (Alameda Plaza Hotel)
Nov. 3-5	Annual Fall Clinical Conference — Kansas City Southwest Clinical Society (Alameda Plaza Hotel)
Dec. 8-10	The Heart 1983 (Alameda Plaza Hotel)
(1984)	
Jan. 14-21	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Steamboat Springs, Colo.)
Feb. 11-18	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Puerto Vallarta, Mex.)
Feb. 24-25	The Long Weekend (Westin Crown Center Hotel)
Mar. 15-16	Critical Care (Alameda Plaza Hotel)
Mar. 17-24	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Breckenridge, Colo.)
Apr. 12-14	Update in Obstetrics-Gynecology (Alameda Plaza Hotel)
May 10-11	Surgical Problems — The Old and The New (Westin Crown Center Hotel)
May 18-19	The Long Weekend (Alameda Plaza Hotel)
June 2	Symposium on Physical Fitness (Hyatt Regency Hotel)
July 27-29	Internal Medicine Update — 1984 (Tan-Tar-A Resort, Osage Beach)

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SYMPOSIUM ON CANCER PATIENT MANAGEMENT

Friday and Saturday, November 18 and 19, 1983

ELLIS FISCHEL STATE CANCER CENTER

Columbia, Missouri

Friday, November 18, 1983
(Ramada Inn)

7:00-8:00 PM	Registration & Social Hour
8:00-10:00 PM	Invited Paper Presentations

Saturday, November 19, 1983
(EFSCC)

7:00-8:00 AM	Registration (Coffee and Doughnuts) Poster Presentation and Exhibits
8:00-8:50 AM	Update on Dioxin Renak Kimbrough, M.D., Environmental Control, Center for Disease Control
9:00-9:50 AM	Biological Response Modifiers — The Lymphokines Ralph D. Reynolds, M.D., Medical Oncology
9:50-10:15 AM	Break
10:15-10:50 AM	Pre-operative Chemotherapy in Locally Advanced Breast Cancer Marvin Lopez, M.D., Surgical Oncology
10:50-11:50 AM	KEYNOTE: MANAGEMENT OF INFECTIONS IN CANCER PATIENTS VICTOR FAINSTEIN, M.D., ASSOCIATE PROFESSOR OF MEDICINE, M. D. ANDERSON HOSPITAL AND TUMOR INSTITUTE
11:50-1:30 PM	Lunch
1:30-2:20 PM	Advances in GI Malignancies William G. Kraybill, M.D., Surgical Oncology
2:30-3:20 PM	Emotional, Psychological and Physical Problem Management in the Cancer Patient Jeanne Walter, R.N., M.S.N.
3:20-4:15 PM	Meet the Professor Session: Questions and Answers

For information and registration, please contact

Janice Gentile
Ellis Fischel State Cancer Center
115 Business Loop 70 West
Columbia, MO 65205
(314) 875-2255

"THE PROBLEMS OF ADOLESCENCE"

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PROGRAM

"The Task of Adolescence," E. James Anthony, M.D.

"Depression in Children and Adolescents," Gabrielle A. Carlson, M.D.

"Sexuality and the Adolescent Female," Moisy Shopper, M.D.

"Adolescent Reactions to the Education Process," Milton A. Rubin, Ph.D.

"The Therapist Conducting Psychotherapy with Adolescents: Expectations, Values Influence and Effects Over Time, " Martha J. Welch, R.N., Ph.D.

"The Role of Family Therapy in the Treatment of Adolescent Problems," Lawrence Kogan, A.C.S.W.

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FOR FURTHER INFORMATION AND RESERVATIONS CONTACT:
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(314) 569-6098

A.C.C.M.E. Category 1 Physician's Recognition Award: 6 Hours

A Fresh Look at JCAH Standards

With respect to the standards of the Joint Commission on Accreditation of Hospitals (JCAH), it is imperative to emphasize that there is one primary, over-riding principle to which the AMA is devoted.

It is that physicians, individually and collectively, as members of hospital medical staffs, are and should be responsible for staff structure, credentials, privileges, quality assurance and due process.

It is equally important to recognize that total responsibility for the quality of patient care does, and must, rest where it has always been: with the individual hospital governing board and its medical staff.

It is in keeping with that unswerving commitment that the AMA Board of Trustees had asked the JCAH to incorporate certain provisions into the Medical Staff chapter of its 1984 "Accreditation Manual for Hospitals," which was expected to be published in August, 1983.

The AMA's views on those provisions were circulated to members in February, 1983, for their review.

Reaction was immediate and emotional. As a consequence, on April 8, 1983, the AMA Board of Trustees confirmed an action taken in March by the AMA Commissioners to the JCAH.

The action outlined a set of principles for inclusion in future drafts of the Medical Staff chapter.

The principles are:

1. Continue the use of the term "Medical Staff" in the title of the chapter and throughout the accreditation manual.
2. Delete references to dentists, podiatrists, oral surgeons and other limited-licensed practitioners in the Medical Staff chapter.
3. Ensure access for limited-licensed practitioners.
4. Require greater than a simple majority of fully licensed physicians on the medical staff executive committee in acute-care general hospitals.
5. Provide for exceptions to item 4 in other hospitals.
6. Ensure that all hospitalized patients receive the same standard of care through appropriate language relating to admissions and the responsibility for the medical care of patients.

At its meeting on March 27, the JCAH Standards and Survey Procedures Committee instructed JCAH staff, with professional assistance, to draft standards language for principles similar to those approved by the AMA Board of Trustees.

The AMA Board had previously requested the JCAH Board of Commissioners to defer final action on any revisions in the Medical Staff chapter until its August meeting to allow for full consideration of the issue by AMA members.

The JCAH Standards and Survey Procedures Committee has instructed its subcommittee on the Medical Staff Standards to recommend a new draft of the Medical Staff chapter to the full committee. No final action on the Medical Staff standards is expected before the August meeting of the JCAH Board of Commissioners, with publication of the 1984 "Accreditation Manual for Hospitals" scheduled for October, 1983.

Throughout the remainder of the standards revision process, the AMA will continue to strive for the development of standards that provide for quality patient care; are flexible; meet the needs of physicians and hospitals; and recognize the legal aspects of standard-setting activities.

Other members of the JCAH are the American College of Physicians; American College of Surgeons; American Dental Association; American Hospital Association; and one public member.

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NEWS From the Medical Schools

UNIVERSITY OF MISSOURI-COLUMBIA

Two faculty members have been appointed interim associate deans at the University of Missouri-Columbia (UMC) School of Medicine. *Dr. Douglas M. Griggs Jr.*, professor of physiology, has been named interim associate dean of research and *Dr. Wallace A. Rogers Jr.*, associate professor of pathology, has been appointed interim associate dean of education.

"Having one associate dean with a focus on research and another for education will add a new dimension to the service capability of the dean's office," said *Dr. William D. Bradshaw*, interim dean of the UMC School of Medicine. "I am extremely pleased that these individuals are available and willing to assume the added responsibilities, allowing us to utilize more fully the expertise that is already here," Dean Bradshaw said.

Dr. Griggs, who holds a bachelor's degree from Harvard University, received his M.D. from the University of Virginia. Before joining UMC in 1967, he was a research fellow at the University of Pittsburgh School of Public Health and at the National Heart Institute as well as a member of the faculty at Hahnemann Medical College, Philadelphia.

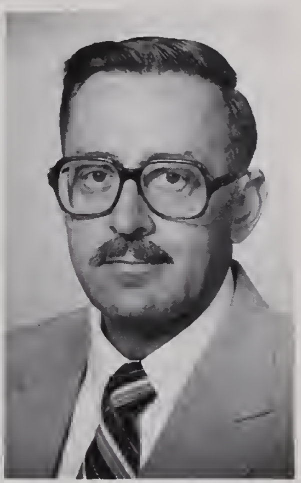
Dr. Griggs is on the editorial board of the journal *Circulation Research*, and a reviewer for a number of other professional publications. Since 1967, in addition to departmental training grants, Dr. Griggs has received grants or grant commitments totaling nearly $2 million.

"One of my goals as associate dean is to develop a service to advise faculty members on applying for grants, using the help of our more experienced researchers," Dr. Griggs said. "I think that, overall, the School of Medicine has demonstrated considerable strength in getting research funding, despite cuts being made at the national level."

Dr. Wallace Rogers, Jr., interim associate dean for education, holds bachelor's and master's degrees from Iowa State University and earned his M.D. from the University of Minnesota School of Medicine. He came to UMC in 1972 from Vermont where he was assistant to the state's chief medical examiner.

Since 1965, Dr. Rogers has acquired extensive experience in tropical medicine, working in Central America, and Mexico, India, Nepal and South Vietnam. He is a member of the American Society of Tropical Medicine and Hygiene and the American Society of Parasitologists. He also holds a diploma in tropical medicine and hygiene.

Dr. Rogers


Dr. Griggs

Dr. Rogers, who chaired the school's educational council from 1977 to 1979 and is currently its co-chair, hopes to coordinate and facilitate activities between different departments as well as guide and implement new programs needed to provide the best in medical education.

"The School of Medicine is fairly dependent on income derived from faculty care of patients," Dr. Rogers notes. "But even in these difficult financial times, it is important that we keep our interest and emphasis on the educational process high. We must continue to turn out well-prepared graduates, able to serve the public in diverse areas of medicine."

UNIVERSITY OF MISSOURI-KANSAS CITY

The 1983 Student/Faculty Study Tour departed August 1 for a month in the British Isles. The itinerary included seven days in London, including a visit to the Royal Colleges of Physicians and Surgeons, followed by visits to Cambridge, Edinburgh, Glasgow, Liverpool, Stratford-on-Avon, and Llangollen, Wales. Members of the tour group will visit medical schools and hospitals along the way as well as sightsee. The study tour is a month-long elective to provide students with on-site study experiences. Previous UMKC School of Medicine study tours have been to China, Canada, Israel, Greece, Central Europe, and the southwestern United States.

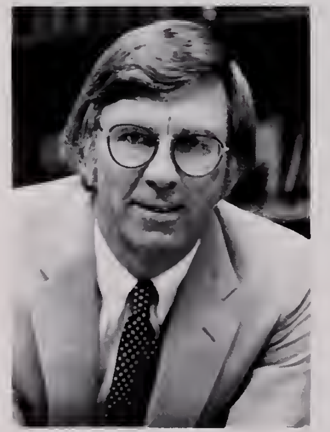
Fifth-year student *Mary Vogelsang* finished a two-month student research fellowship at the National Institutes of Health in Bethesda, Maryland. Sixth-year student *Susan Blanchard* has been selected from 57 applicants by the Southern Medical Association to receive a grant for $2,500. She is beginning a research project entitled "Laboratory Predictors of Deep Venous Thrombosis in Surgical Patients" to attempt to identify patients at high risk for developing thrombosis post-operatively by using laboratory tests as predictors.

Ron MacQuarrie, Ph.D., *Bob Yang*, Ph.D., and *Rona Hirschberg*, Ph.D., associate professors of medicine and chemistry, have received approval for funding of $130,403 for their project on the development and application of genetic engineering.

Bernard Lubin, Ph.D., professor of psychology and medicine, has been elected to a two-year term as member-at-large of the executive board of the Division of Consulting Psychology of the American Psychological Association.

Marjorie S. Sirridge, M.D., professor and docent, is one of 60 Kansas City area women selected as Women of Achievement by the Mid-Continent Council of Girl Scouts.

WASHINGTON UNIVERSITY



Dr. Manske

Paul R. Manske, M.D., has been appointed chief of the Division of Orthopedic Surgery in the Department of Surgery at the School of Medicine.

Announcement of the appointment was made by *Samuel A. Wells, Jr.*, M.D., head of the Department of Surgery. Dr. Manske will serve as chief orthopedic surgeon for the Barnes Hospital at Washington University Medical Center. He is also on staff at the St. Louis Children's Hospital, the Jewish Hospital of St. Louis and County Hospital.

A 1964 graduate of Washington University School of Medicine, Dr. Manske took his post-graduate surgical training at the University of Washington in Seattle. He was a resident orthopedic surgeon at the Barnes Hospital from 1969-1972, and held a special six-month fellowship in hand surgery with *Harold Kleinert*, M.D., at the University of Louisville. He joined the Washington University faculty in 1972 as an instructor in orthopedic surgery and became assistant professor in 1976, directing the training of residents in orthopedic surgery.

Dr. Manske established a private practice in orthopedic surgery in south St. Louis County in 1979, and joined the staffs of St. Anthony's, St. Joseph's, and Missouri Baptist hospitals. Also in 1979, he became research assistant professor of pediatric surgery at Washington University.

Dr. Manske's research specialization is in hand surgery. He served on the research and congenital deformities committees of the American Society for Surgery of the Hand, and is also a member of the Hand Study Society, the American Academy of Orthopedic Surgeons, the American College of Surgeons and the American Medical Association, as well as several local and regional medical specialist societies.

For the past ten years, Dr. Manske has been director of hand surgery at Shriners Hospital for Crippled Children. The National Institute of Health funded his work at Washington University to develop artificial pulleys for use in the hand, and studies of tendon nutrition and healing before surgery. His current research, supported by grants from Shriners Hospital and The National Institutes of Health, focuses on changes in tendons with age and with various diseases. He has published numerous articles and abstracts in scientific journals and books, principally on joint replacement, various aspects of the development and healing process of hand tendons, tendon grafts and artificial tendons.

Dr. Manske has presented lectures and seminars at medical meetings and schools throughout the United States and in Canada, Mexico and The Netherlands.

ST. LOUIS UNIVERSITY

H. M. Zimmerman, M.D., professor emeritus of pathology at Albert Einstein College of Medicine in New York City, recently gave the fourth annual Henry Pinkerton Memorial Lecture at St. Louis Medical Center. The lecture was titled, "Pathogenesis of Ring Lesions in CT Scans."

Dr. Zimmerman is one of the senior American neuropathologists and recipient of the Gold-Headed Cane Award from the American Association of Pathologists. He is a graduate of Yale University and has been an editor of numerous medical journals, served on several national panels and received the Emperor of Japan Order of the Sacred Treasure in 1973.

The memorial lecture is named for *Henry Pinkerton*, N.Y., a former professor and chairman emeritus of the Department of Pathology at St. Louis University School of Medicine. Dr. Pinkerton also received the Gold-Headed Cane Award.

Burton Singerman, M.D., M.P.H., has been appointed assistant Professor of Psychiatry, Director of Residency Training Program and Director of Inpatient Psychiatric Services at St. Louis Hospitals. Dr. Singerman succeeds *Eric Nuetzel*, M.D.

Before joining St. Louis University Hospitals, Dr. Singerman was Assistant Professor of Psychiatry at Washington University Medical Center and Director of Medical Group of St. Louis. He was also a National Research Service Award Fellow from NIMH engaged in psychiatric epidemiology research.

A conference focusing on the causes and treatment of sleep disorders was held on the St. Louis Medical Center campus. The conference was designed to familiarize health care professionals with the symptoms, diagnosis and treatment of sleep disorders commonly encountered in clinical practice as well as the diagnosis of psychogenetic and organic impotence.

Topics covered by guest speakers included insomnia, misuse of sleeping pills, narcolepsy, daytime sleepiness, sleep apnea and the diagnosis of impotence. Among the guest speakers were *Kristyna Hartse*, Ph.D., Director, Sleep Disorders Center, St. Louis University Hospitals; *Thomas Roth*, Ph.D., Director, Sleep Disorders and Research Center, Henry Ford Hospitals, Detroit; and *Howard P. Roffwarg*, M.D., Director, Sleep-Wake Disorders Center, Presbyterian Hospitals, Dallas.

Alice Fowler, the first pancreas transplant recipient in St. Louis, died April 29. *Paul J. Gravin*, M.D., head of the transplant team and associate professor of surgery at St. Louis University School of Medicine, cited cause of death as respiratory complications and pneumonia.

Mrs. Fowler, 30, underwent the transplant procedure on Feb. 10, 1983.

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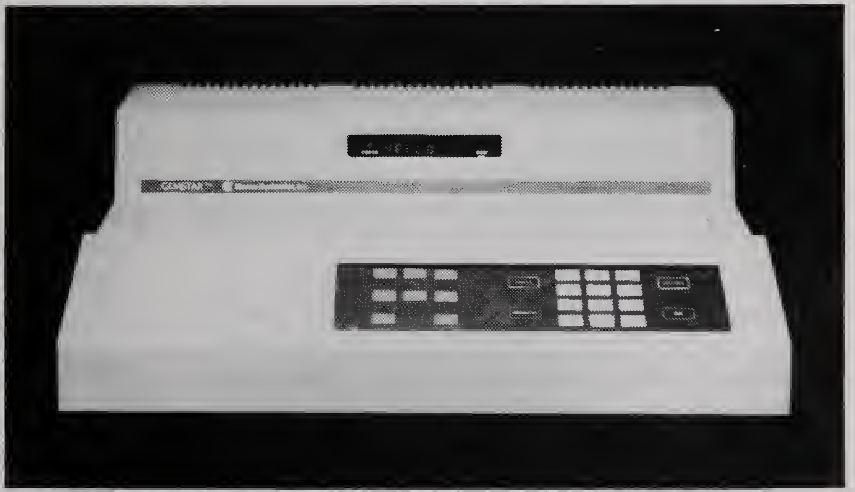

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Gregory J. Bailey, M.D., 12584 Markaire Dr., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Bailey is a native of Salt Lake City, Utah, received his preliminary education at the University of Utah and his M.D. degree at St. George University in 1982. He specializes in neurosurgery.

Mark A. Bauman, M.D., 686 Lester, Poplar Bluff 63901, has become a member of Butler-Wayne-Ripley-Carter County Medical Society. Dr. Bauman is a native of Columbia, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1980. He specializes in internal medicine.

Ruby Linda Batan-Co, M.D., 14233 Reelfoot Lake Dr., Chesterfield 63017, has become a member of St. Louis Metropolitan Medical Society. Dr. Batan-Co is a native of the Philippines, received her preliminary education at the University of Santo Tomas and her M.D. degree at the University of Santo Tomas in 1970. She specializes in anesthesiology.

Sid B. Belshe, M.D., St. Mary's Health Center, Jefferson City, 65101, has become a member of Cole County Medical Society. Dr. Belshe is a native of Springfield, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1978. He specializes in diagnostic radiology.

Louis Armand Benoist, M.D. 2201-6 Westwood Village, Poplar Bluff 63901, has become a member of Butler-Wayne-Ripley-Carter County Medical Society. Dr. Benoist is a native of Natchez, Miss., received his preliminary education at Mississippi State University and his M.D. degree at Mississippi State University in 1970. He specializes in orthopedic surgery.

Henry R. Bishop, M.D., 16371 Chaney Lane, Stilwell, Kan. 66085, has become a member of Jackson County Medical Society. Dr. Bishop is a native of Independence, received his preliminary education at the University of Texas and his M.D. degree at the University of Texas in 1979. He specializes in obstretics and gynecology.

Roger W. Cameron, D.O., 1433 Southwest Blvd., Jefferson City 65101, has become a member of Cole County Medical Society. Dr. Cameron is a native of Summit, N.J., received his preliminary education at the University of Kansas and his D.O. degree at the Kansas City College of Osteopathic Medicine in 1977. He specializes in orthopaedic surgery.

John W. Campbell, M.D., 114 N. Taylor Ave., St. Louis 63108, has become a member of St. Louis Metropolitan Medical Society. Dr. Campbell is a native of Louisville, Ky., received his preliminary education at Washington University and his M.D. degree at Washington University in 1973. He specializes in internal medicine and infectious diseases.

Robert L. Carter, M.D., 2727 McClelland, Joplin 64801, has become a member of Jasper County Medical Society. Dr. Carter is a native of El Centro, Calif., received his preliminary education at Arizona State University and his M.D. degree at the University of Tennessee in 1966. He specializes in hematology and oncology.

Mark Stephen Cotner, M.D., 1513 W. 32nd St., Joplin 64801, has become a member of Jasper County Medical Society. Dr. Cotner is a native of Guthrie, Okla., received his preliminary education at the University of Tulsa and his M.D. degree at the University of Oklahoma in 1978. He specializes in general surgery.

Robert C. Dang, M.D., 405 Cedar, Pleasant Hill 64080, has become a member of West Central Missouri Medical Society. Dr. Dang is a native of Vietnam, received his preliminary education at Saigon Medical Center and his M.D. degree at Saigon Medical Center in 1969. He specializes in family practice.

Gary W. Dausmann, M.D., Kneibert Clinic, 686 Lester, Poplar Bluff 63901, has become a member of Butler-Wayne-Ripley-Carter County Medical Society. Dr. Dausmann is a native of Chicago, Ill., received his preliminary education at Denver University and his M.D. degree at Rush Medical College in 1979. He specializes in family practice.

Thomas A. Dodd, M.D., 868 Lester, P.O. Box 220, Poplar Bluff 63901, has become a member of Butler-Wayne-Ripley-Carter County Medical Society. Dr. Dodd is a native of Independence, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1976. He specializes in family practice.

Jack Edmisten, M.D., Brookside Mental Health Offices, 601 E. 63rd, Kansas City 64110, has become a member of Jackson County Medical Society. Dr. Edmisten is a native of Kansas City, received his preliminary education at the University of Arkansas and his M.D. degree at the University of Arkansas in 1962. He specializes in psychiatry.

John D. Elliott, M.D., 15951 Sewell Ct. Chesterfield 63107, has become a member of St. Louis Metropolitan Medical Society. Dr. Elliott is a native of St. Louis, received his preliminary education at the University of Missouri-Rolla and his M.D. degree at the University of Missouri-Columbia in 1978. He specializes in anesthesiology.

Robert E. Ferris, M.D., 1431 Southwest Blvd., Jefferson City 65101, has become a member of Cole County Medical Society. Dr. Ferris is a native of Seattle, Wash., received his preliminary education at St. Louis University and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in obstetrics and gynecology.

James W. Gieselmann, M.D., 107 Oak St., Poplar Bluff 63901, has become a member of Butler-Wayne-Ripley-Carter County Medical Society. Dr. Gieselmann is a native of Memphis, Tenn., received his preliminary education at the University of Tennessee and Memphis State University and his M.D. degree at the University of Tennessee in 1976. He specializes in general surgery.

Narinder S. Grewal, M.D., 2400 Frederick Ave., St. Joseph 64506, has become a member of Buchanan County Medical Society. Dr. Grewal is a native of India, received his preliminary education at Government College and his M.D. degree at Government College in 1980. He specializes in anesthesiology.

Sidney Kent Griffith, M.D., 10 Doctors' Park, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Griffith is a native of Louisiana, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1980. He specializes in family practice.

Richard C. Haydon, III, M.D., 1 Hospital Dr., Department of ENT, Columbia 65102, has become a member of Boone County Medical Society. Dr. Haydon is a native of Richmond, Va., received his preliminary education at Washington and Lee University and his M.D. degree at the University of Virginia in 1978. He specializes in otorhinolaryngology and head and neck surgery.

Rosalyn E. Inniss, M.D., 600 E. 22nd St., Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Inniss is a native of New York, N.Y., received her preliminary education at Wilberforce University and her M.D. degree at Meharry Medical College in 1972. She specializes in child psychiatry.

Kenneth C. Kreski, M.D., 6420 Clayton Rd., St. Louis 63117, has become a member of St. Louis Metropolitan Medical Society. Dr. Kreski is a native of Paterson, N.J., received his preliminary education at the University of Notre Dame and his M.D. degree at St. Louis University in 1980. He specializes in internal medicine.

Hsiu-san Lin, M.D., 510 S. Kingshighway, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Lin is a native of Nagoya, Japan, received his preliminary education at National Taiwan University and his M.D. degree at National Taiwan University in 1960. He specializes in therapeutic radiology.

Alan Luger, M.D., NW646, UMHSC, Columbia 65212, has become a member of Boone County Medical Society. Dr. Luger received his preliminary education at Hamilton College and his M.D. degree at Duke University in 1972. He specializes in pathology.

William H. Marshall, M.D., 1431 Southwest Blvd., Jefferson City 65102, has become a member of Cole County Medical Society. Dr. Marshall is a native of Springfield, received his preliminary education at Drury College and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in obstetrics and gynecology.

Emmett McWoods, Jr., M.D., 7685 Charles Dr., Apt. 203, Lenexa, Kan. 66216, has become a member of Jackson County Medical Society. Dr. McWoods is a native of Nashville, Tenn. He received his baccalaureate and M.D. degree from the University of Missouri-Kansas City in 1978. He specializes in internal medicine.

Frederick S. Mittleman, M.D., Menorah Medical Center, 4949 Rockhill Rd., Kansas City 64110, has become a member of Jackson County Medical Society. Dr. Mittleman is a native of Sioux City, Iowa, received his preliminary education at Morningside College and his M.D. degree at Creighton University in 1970. He specializes in psychiatry.

Raymond A. Morehead, M.D., 800 E. Fifth St., Suite 104, Washington 63090, has become a member of Franklin-Gasconade-Warren County Medical Society. Dr. Morehead is a native of Woodstock, Ill., received his preliminary education at Northwestern University and his M.D. degree at the University of Illinois in 1976. He specializes in general, vascular and thoracic surgery.

Thomas H. Motier, M.D., 16 Hampton Village, St. Louis 63109, has become a member of St. Louis Metropolitan Medical Society. Dr. Motier is a native of Chicago, Ill., received his preliminary education at the University of Notre Dame and his M.D. degree at Marquette Medical School in 1969. He specializes in pediatrics.

Michael Steven Pennington, M.D., 798 N. Pomme De Terre, Bolivar 65613, has become a member of Dallas-Hickory-Polk-Dade County Medical Society. Dr. Pennington is a native of Kansas City, received his preliminary education at Central Methodist College and his M.D. degree at the University of Missouri-Columbia in 1980. He specializes in family practice.

Karen Janell Phillips, M.D., 615 S. New Ballas Rd., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Phillips is a native of Gordon, Neb., received her preliminary education at Anderson College and her M.D. degree at the University of Nebraska in 1981. She specializes in internal medicine.

Blase J. Pignotti, M.D., 615 S. New Ballas Rd., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Pignotti is a native of Chicago Hts., Ill., received his preliminary education at the University of Illinois and his M.D. degree at the University of Illinois in 1982. He specializes in obstetrics and gynecology.

Steven P. Pisoni, M.D., 3915 Watson Rd., St. Louis 63109, has become a member of St. Louis Metropolitan Medical Society. Dr. Pisoni is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1980. He specializes in internal medicine.

John R. Schoenberger, M.D., 937 Broadway, Medical Arts Building, Cape Girardeau 63701, has become a member of Cape Girardeau Area County Medical Society. Dr. Schoenberger is a native of Murphysboro, Ill., received his preliminary education at St. Louis University and his M.D. degree at Loyola-Stritch School of Medicine in 1980. He specializes in internal medicine.

Janis M. Steinbrecher, D.O. 12005 Cherokee, Leawood, Kan. 66209, has become a member of Jackson County Medical Society. Dr. Steinbrecher is a native of Seattle, Wash., received her preliminary education at the University of Washington and her D.O. Degree at Kansas City College of Osteopathic Medicine in 1978. She specializes in internal medicine.

Ronald W. Swinfard, M.D., 804 Sycamore Lane, Columia 65201, has become a member of Cape Girardeau Area County Medical Society. Dr. Swinfard is a native of Waynesville, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1969. He specializes in dermatology.

Kongsak Tanpaichitr, M.D., 11115 New Halls Ferry Rd., St. Louis 63033, has become a member of St. Louis Metropolitan Medical Society. Dr. Tanphaichitr is a native of Bangkok, Thailand, received his preliminary education at Mahidol University and his M.D. degree at Siriraj Medical School in 1970. He specializes in internal medicine and rheumatology, allergy and immunology.

Eugene S. Welter, M.D., 6400 Prospect, Suite 333, Kansas City 64132, has become a member of Jackson County Medical Society. Dr. Welter is a native of Aurora, Ill., received his preliminary education at Loyola University and his M.D. degree at Loyola Stritch School of Medicine in 1954. He specializes in occupational medicine and preventive medicine.

New Student Members

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Mary T. McCluskey

University of Missouri-Columbia

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Ronald L. Fischer
Erwin C. Handley, Jr.
Eileen M. Harrahill
Melissa M. Hicks
Ingrid Nygaard
Shari L. Ommen
Casey Jay Page
Dan L. Pierce
Churphena A. Reid
Steven K. Rowe
Danny K. Stanton
Mark B. Wishnuff

University of Missouri-Kansas City

Kenneth I. Bluestone
Laura L. Brown-Doan
Shauna Carr
Mel Clark
Quintin L. Cokingtin
Traci L. David
David R. Ferguson
Tyann R. Goforth
Mark A. Groh
Robyn H. Jacobs
Craig Karoll
Edgar M. King Jr.
James T. Lane
James Liu
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in Brief

A summary of AMA, medical & health news

American Medical Association / 535 North Dearborn Street / Chicago, Illinois 60610 / Phone (312) 527-1500 / TWX 910-221-0300

640 PHYSICIANS attended the first meeting of the AMA's Hospital Medical Staff Section. The new section will provide a national forum for issues confronting medical staff physicians, stimulate closer communication, and provide medical staffs with a direct voice in the House of Delegates. The section's first governing council consists of Thomas C. Peeples, M.D., Weston, Mass., chairman; Charles C. Stamey, M.D., Columbus, Ga., vice chairman; Thomas R. Reardon, M.D., Portland, Ore., delegate to the AMA House; Marie G. Kuffner, M.D., Los Angeles, alternate delegate; Henry M. Domzalski, M.D., Detroit, secretary; Walter A. Reiling Jr., M.D., Dayton, Ohio, at-large member; and Sandra F. Olson, M.D., Chicago, at-large member.

BOARD OF TRUSTEES positions for a resident and a medical student were approved by the AMA House of Delegates. The resident trustee would be elected by the House at the first Annual Meeting following approval of amendments to the constitution and bylaws, which are expected to be brought to the House at the 1983 Interim Meeting. The resident would have full voting rights and would serve for a term of two years, with a maximum of three terms. The non-voting medical student trustee would be appointed annually by the Board from nominations made by the Medical Student Section Governing Council. The student would be appointed at the first Annual Meeting following approval of the amendments.

COUNTY AND STATE medical societies should implement a simple mechanism to allow physicians to transfer their membership when relocating, according to a report adopted at the AMA Annual Meeting. The "transfer of membership" procedure should be flexible enough to allow resident members to become regular members if they move after completing their training, the report said.

THE AMA'S VIDEO CLINIC series of continuing medical education programs will soon be available to physicians on cable television. The series, which has been available on videocassettes, will be distributed through several major cable television networks. The cable schedule will be announced through direct mail and in advertisements in medical publications. All Video Clinic programs are designed for Category I CME credit toward the AMA Physician Recognition Award. It is estimated that more than 150,000 physicians have cable television in their homes, and the number is expected to double over the next few years.

ADVERSE HEALTH EFFECTS from dioxin have not been demonstrated, the AMA told Congress. Citing the 1981 AMA report on Agent Orange and dioxin contamination, John R. Beljan, M.D., a member of the Council on Scientific Affairs, told a House subcommittee that there was insufficient published data to establish a relationship between dioxin exposure and alleged health problems other than chloracne. Dr. Beljan, who chaired the AMA advisory panel that prepared the 1981 report, said the Council on Scientific Affairs will review more recent literature in August. The findings will be presented to the Board of Trustees in October and to the House of Delegates in December.

MEDICAL JOURNAL citations and abstracts will be available to Medical Information Network subscribers when the Excerpta Medica Physician Information Retrieval and Education Service (EMPIRES) data base is added to the four AMA data bases (AMA/NET) this month. Subscribers will be able to use their home or office computer terminals to search for articles in 298 key medical journals. Excerpta Medica, a division of Elsevier Science Publishers, Amsterdam, Holland, will update the data base with 50,000 new citations and abstracts yearly. Eventually, physicians could use their terminals to order full texts of articles from the AMA library.

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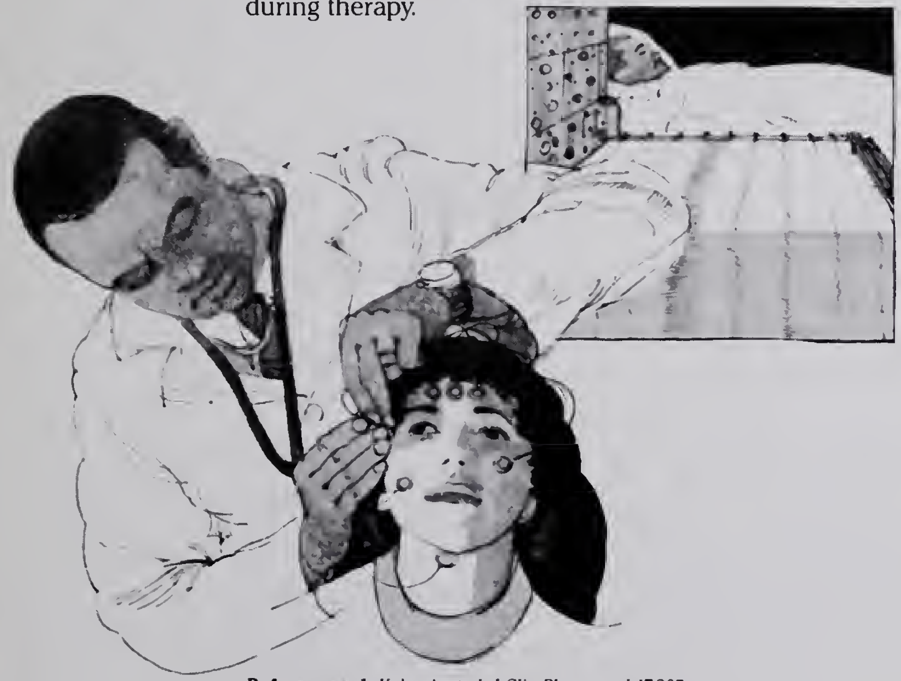

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Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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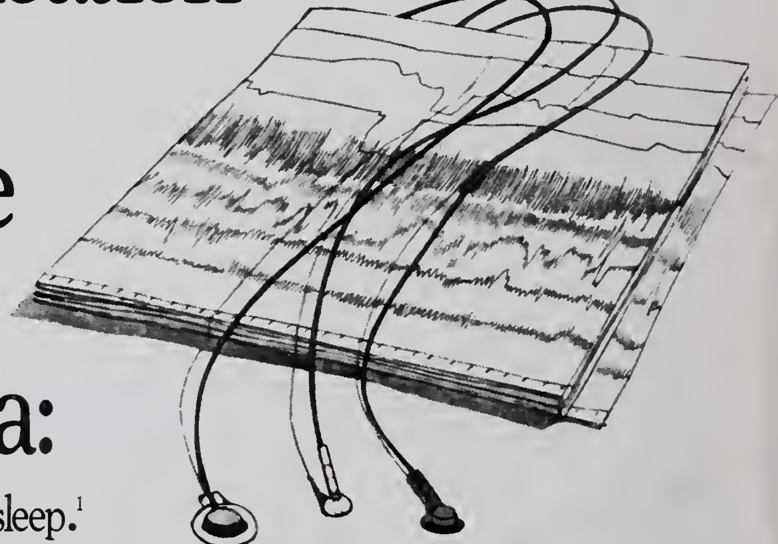

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Missouri State Medical Association

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PROGRESS NOTES

missouri state medical association

OCTOBER 1983

MD Must Notify Embalmer or Funeral Director

The Missouri Funeral Directors Association has expressed concern about the dangers of embalming victims of AIDS or victims of any of the other highly infectious diseases. In a response to this concern, the Missouri State Medical Association would like to call Rule 13 CSR 50-101.050(4) to the attention of its members.

"It shall be the duty of the attending physician immediately upon diagnosing a case of a reportable communicable disease to give detailed instructions to the patient, members of the household and attendants regarding proper control measures. When a person dies while infected with a communicable disease, it shall be the duty of the attending physician to immediately learn who is to prepare the body for burial or cremation and then notify the funeral director, embalmer or other responsible person regarding the communicable disease the deceased had at the time of death."

No Decision in Sermchief Case

Attorneys in the controversial *Sermchief* case estimate it will be two months before the Missouri Supreme Court renders a decision.

Last month, the Court heard oral arguments in the case which addresses the question of whether several registered nurses employed by family planning clinics in southeast Missouri were practicing medicine by prescribing medications and conducting pelvic examinations. The Missouri State Medical Association has filed an *amicus curiae* in the case.

MSMA Testifies

Medical Costs Examined

Walter A. German, M.D., chairman of the MSMA Council, testified before the Missouri House Interim Committee on Health Care Costs on September 9. The Committee, comprised of legislators, businessmen and women, labor leaders and medical professionals, is investigating possible causes and solutions to increasing costs in health care.

Addressing the Committee, Dr. German specified several reasons for escalating health care cost including:

- aging population
- improved technology
- inflation
- third party payment which doesn't involve the patient
- lifestyles (smoking, drinking, etc.)
- increases in professional liability premiums
- government regulations

The Committee also heard from the Missouri Hospital Association, the Missouri Association of Osteopathic Physicians and Surgeons and Barrett Toan, director of the Missouri Department of Social Services.

Two additional committee hearings are scheduled in an effort to determine alternative methods state government may use to help contain health care costs.

Beginning October 1

AMA: DRGs Should Be Limited

Diagnosis-Related Groups, DRGs, mark a momentous change in the way government pays its share of medical and health care cost, AMA Executive Vice President James H. Sammons, M.D., said at the AMA Conference on Peer Review Organizations and Prospective Payment. The federal government's prospective pricing system (PPS) for the payment of hospital services under Medicare went into effect Oct. 1.

Congress has directed that a diagnosis-related group system for the payment of physicians' services under Medicare be readied for consideration by 1985. PROs will be used to review the cost and quality of services provided under Medicare and Medicaid.

The AMA is not opposed to the concept of prospective payment including DRGs. "We're willing to give it a try," Dr. Sammons said at the Washington, D.C. conference. Such alternative financing mechanisms should not be implemented on a broad scale, however, until there is proof that they are cost effective. Observing that the DRG concept is experimental, the AMA recommended earlier this year that it should be tried on a limited basis before being applied nationally.

Dr. Sammons told the conference that only physicians and hospitals are in a position to determine real patient needs. Physicians must see that a hospitalized Medicare patient receives a medical test or procedure that he truly needs "regardless of whether a DRG does or does not apply," said the AMA leader, who noted that the long-term purpose of DRGs is to cut costs.

Diabetes Booklet Now Available

A new booklet, "The Prevention and Treatment of Five Complications of Diabetes, A Guide for Primary Care Practitioners," has been prepared by the Bureau of Chronic Diseases, Missouri Division of Health.

The 67-page booklet is divided into five sections: 1) Detection and Prevention of Visual Impairment, 2) Detection and Prevention of Adverse Outcomes in Pregnancy, 3) Detection and Prevention of Foot Problems, and 5) Detection and Prevention of Acute Hyperglycemia and Ketoacidosis.

The guide is available by writing Joseph P. Mariano, M.D., Bureau of Chronic Diseases, Missouri Division of Health, Broadway State Office Building, P.O. Box 570, Jefferson City, MO 65102.

Medical Bills In Special Session

Two issues of particular interest to medicine will be considered during the Special Session of the Missouri Legislature in October. Governor Christopher "Kit" Bond called the Special Session to consider increasing taxes and issuing some of the bonds approved by Missourians in 1980.

Included in the call is a request for the Legislature to consider two bills pertinent to the interests of medicine. The first bill permits LPNs to administer IVs and the second authorizes the state to join in an interstate compact on low-level radioactive waste disposal.

Dr. Youmans Addresses Second District

Ronald A. Youmans, M.D., president of the Missouri State Medical Association, was the featured speaker at the Second Councilor District dinner in Paris, Missouri on October 13.

Dr. Youmans met with Robert V. Tompson, M.D., 2nd District Councilor, and many other physicians and spouses in the District. The 2nd Councilor district includes five medical societies representing physicians in 16 counties in northeast Missouri.

Committee & Commissions

Recommendations Sought

Dr. James M. Stokes, Missouri State Medical Association president-elect, is soliciting recommendations for MSMA standing commission and committee appointments available in 1984.

Dr. Stokes will take the gavel as the new MSMA president at the 126th Annual Convention. During the convention, he will appoint new commission and committee members.

The MSMA Standing Commissions and Committees are: Committee on Constitution and Bylaws, Committee on the Impaired Physician, Committee on Legislative Affairs, Committee on Planning, Committee on Publication, Commission on Continuing Education and Health Manpower, Commission on Interspecialty Medicine, Commission on Medical Economics, Third Party Medicine and Governmental Relations, Commission on Medical-Legal Affairs, and the Commission on Public Affairs.

The Annual Convention will be March 29-April 1, 1984 at the St. Louis Marriott Pavilion Hotel.

Nominations may be sent to Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102.

Government Intrustion

AMA Strongly Opposes 'Baby Doe' Regulations

Revised "Baby Doe" regulations were opposed by the AMA in comments to Secretary of Health and Human Services Margaret Heckler. The July 5 proposed rule closely mirrors an interim final rule that was declared invalid in a suit filed with the American Academy of Pediatrics.

Although HHS announced it intended to appeal the U.S. District Court ruling, no appeal was made. Instead, the department has published a slightly modified version of the invalidated interim rule.

As published in the *Federal Register*, the proposed rule, a modification of Section 504 of the Rehabilitation Act of 1973, would require federally funded hospitals to post the following notice in obstetrics wards and nurseries: "Discriminatory failure to feed and care for handicapped infants in this facility is prohibited by federal law. Any person having knowledge that a handicapped infant is being discriminatorily denied food or customary medical care should immediately contact" HHS through a toll-free telephone hot line.

The rule would also allow HHS investigators to have 24-hour access to hospitals to "protect" a handicapped infant.

The American Medical Association believes the proposed rule is an inappropriate intrusion by the federal government into an area best left to families, physicians and community leaders. The federal government can contribute significantly to those having to make these difficult decisions if, instead, it encourages dissemination of reliable information concerning up-to-date methods for treating severely deformed newborns.

The American Medical Association objects to the proposed rule for the following reasons:

- **Effect on Families and Institutions** — The posted notice could increase the fears of expectant parents and create distrust of physicians and hospital personnel.

  Some individuals might perceive that the notice is posted to remedy prior improper actions of the facility.

- **Liabilities of 24-Hour Access by Government Investigators** — The proposed rule does not clarify what circumstances warrant immediate access.

  Investigators without medical training may not be able to intepret records or the medical situation properly.

  The privacy of patients' medical records may not be protected.

- **Ethics Committees** — Ethics review bodies should be established voluntarily by local hospitals and their medical staffs to assist parents, physicians and other members of the treatment team in decision making.

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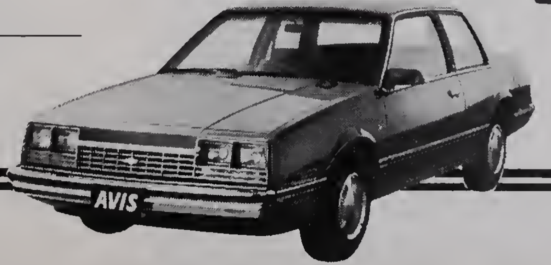

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References should be cited in numerical order in the text and arranged at the end of the article in the same order in which they are cited. The reference should give name of author, title of article, name of periodical, volume number, initial page number and year. Authors are responsible for reference accuracy.

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All material other than scientific should be received prior to the first of the month preceding month of publication.

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**Meeting of Am Soc Colon/Rectal Surgeons, May 1980*
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Each gram of Anusol-HC Cream contains hydrocortisone acetate, 5.0 mg, bismuth subgallate, 22.5 mg, bismuth resorcin compound, 17.5 mg; benzyl benzoate, 12.0 mg; Peruvian balsam, 18.0 mg, zinc oxide, 110.0 mg; also contains the following inactive ingredients: propylene glycol, propylparaben, methylparaben, polysorbate 60 and sorbitan monostearate in a water-miscible base of mineral oil, glyceryl stearate and water.

Anusol-HC Suppositories and Anusol-HC Cream help to relieve pain, itching and discomfort arising from irritated anorectal tissues. These preparations have a soothing, lubricant action on mucous membranes, and the antiinflammatory action of hydrocortisone acetate in Anusol-HC helps to reduce hyperemia and swelling.

The hydrocortisone acetate in Anusol-HC is primarily effective because of its antiinflammatory, antipruritic and vasoconstrictive actions.

Indications and Usage: Anusol-HC Suppositories and Anusol-HC Cream are adjunctive therapy for the symptomatic relief of pain, itching and discomfort in: external and internal hemorrhoids, proctitis, papillitis, cryptitis, and fissures, incomplete fistulas, pruritus ani and relief of local pain and discomfort following anorectal surgery.

Anusol-HC is especially indicated when inflammation is present. After acute symptoms subside, most patients can be maintained on regular Anusol® Suppositories or Ointment.

Contraindications: Anusol-HC Suppositories and Anusol-HC Cream are contraindicated in those patients with a history of hypersensitivity to any of the components of the preparations.

Warnings: The safe use of topical steroids during pregnancy has not been fully established. Therefore, during pregnancy, they should not be used unnecessarily on extensive areas, in large amounts or for prolonged periods of time.

Precautions: General: Symptomatic relief should not delay definitive diagnoses or treatment.

Prolonged or excessive use of corticosteroids might produce systemic effects.

If irritation develops, Anusol-HC Suppositories and Anusol-HC Cream should be discontinued until the infection has been adequately controlled.

Anusol-HC is not for ophthalmic use.

Pregnancy: See "WARNINGS"

Pediatric Use: Care should be taken when using the corticosteroid hydrocortisone acetate in children and infants.

Dosage and Administration: Anusol-HC Suppositories — Adults: Remove foil wrapper and insert suppository into the anus. Insert one suppository in the morning and one at bedtime for 3 to 6 days or until inflammation subsides. Then maintain comfort with regular Anusol Suppositories.

Anusol-HC Cream—Adults. After gentle bathing and drying of the anal area, remove the tube cap and apply to the exterior surface and gently rub in. For internal use, attach the plastic applicator and insert into the anus by applying gentle continuous pressure. Then squeeze the tube to deliver medication. Cream should be applied 3 or 4 times a day for 3 to 6 days until inflammation subsides. Then maintain comfort with regular Anusol Ointment.

NOTE: If staining from either of the above products occurs, the stain may be removed from fabric by hand or machine washing with household detergent.

How Supplied: Anusol-HC Suppositories — boxes of 12 (N 0071-1089-07) and boxes of 24 (N 0071-1089-13) in silver foil strips with Anusol-HC printed in black.

Anusol-HC Cream — one-ounce tube (N 0071-3090-13) with plastic applicator.

Store between 15° - 30° C (59° - 86° F).
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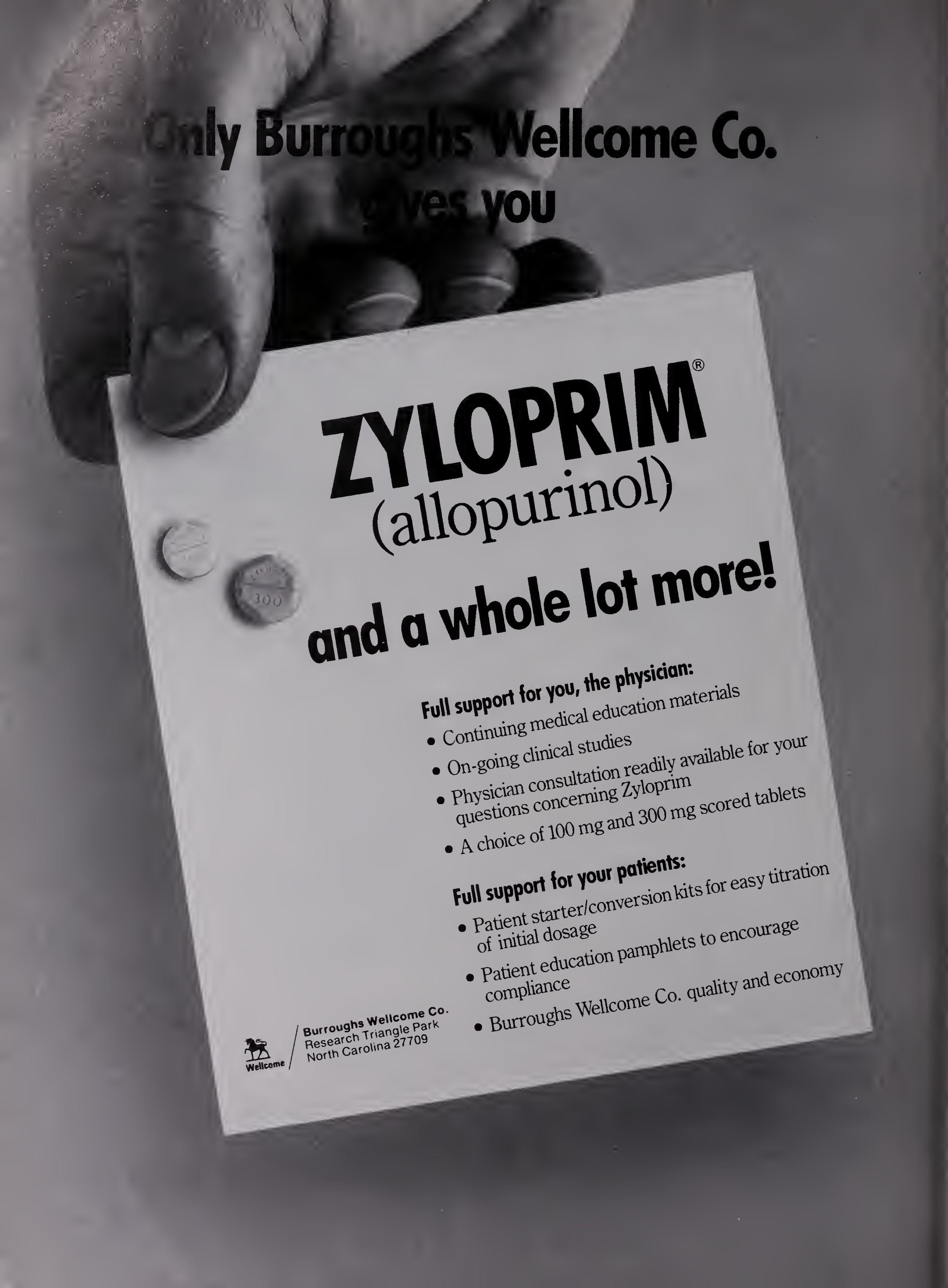

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Editor's Corner

EDITORIAL

An acquaintance of ours has a teen-aged brother named Albert. Brother Albert is growing up in our fast paced world of quick decision and rush delivery — the "Now Generation." Around the house, Albert must have everything happen at once; when he's hungry, he has to have something to eat then and there, usually via the microwave. He's thus known to the family as "Instant Albert."

In an insidious way, we've all become overly time conscious. If Albert can't wait ten minutes for food to heat up the old fashioned way, consider the millions of customers who partake of the offering of fast food outlets. The foodstuffs proferred may be only semi-edible and mechanized in taste and appearance but, by golly, it took only three minutes to get it! Television sets must come through with a picture at the moment a button is pushed in order to sell well. The Concorde will get you to Europe in two hours less — forget the $700 extra fare. Who could stand to wait two days to see those precious pictures taken of Aunt Flo and the kids at the zoo — the negatives can be processed at the fast photo outlet in an hour, for a higher price of course.

The 55 mph speed limit galls motorists hurrying down I-70; sometimes as much as 15 minutes may be lost in a two-hour trip by such enforced dallying. A vocational school in this area has learned that, in order to serve the public, it has to be ready to start a class every Monday of the year, whenever the potential students' inner souls decide it's time for an education. Such behavior patterns are put in a category of "lack of maturity," but who's to define Maturity? Did you ever see a surgeon throw an instrument on the floor because it wasn't what he wanted right then? How many internists roll their eyes up in great dismay when the computer display in the hospital fails to print out a patient's latest Pro Time, and he has to wait several moments while the lab is phoned. Have you ever done a slow burn while waiting in another professional's office? Does anybody want to try to change human nature?

The "quick fix" idea has made great inroads in the practice of medicine. The increasing numbers of off-street medical centers and the greater use of hospital emergency rooms for all conditions give evidence of this. These units are successful primarily for one reason: they stand ready to see the patient NOW. Cost and quality are scarcely considered. When he believes he's ailing, the average citizen at that moment is not at all cost conscious; he's not qualified to judge the manner in which his medical problem is handled. This evolution in the health care field has left many of the older time, "main line" physicians a little disgruntled. "Those patients deserve what they get" is a commonly heard comment from archetype practitioners. A "shotgun" approach to medical problems is often ascribed to the free standing medical clinics.

Some believe that we've brought this situation on ourselves by setting up rigid appointment systems and by interposing nurses and receptionists between ourselves and our patients. Probably only increasing competition will bring the medical world around to supplying the faster medical service the public wants. There needs to be greater rapport between primary care physicians and those involved in more specialized medical services. Doctors who spend extra years learning to practice a specialty in a careful, orderly way must be able and available to dispense some of that knowledge on short order without compromising too much quality. Organized medicine needs to deal more effectively with the instant Alberts and Albertas in our society. What we really need is a fast solution, right now, posthaste. See what I mean?

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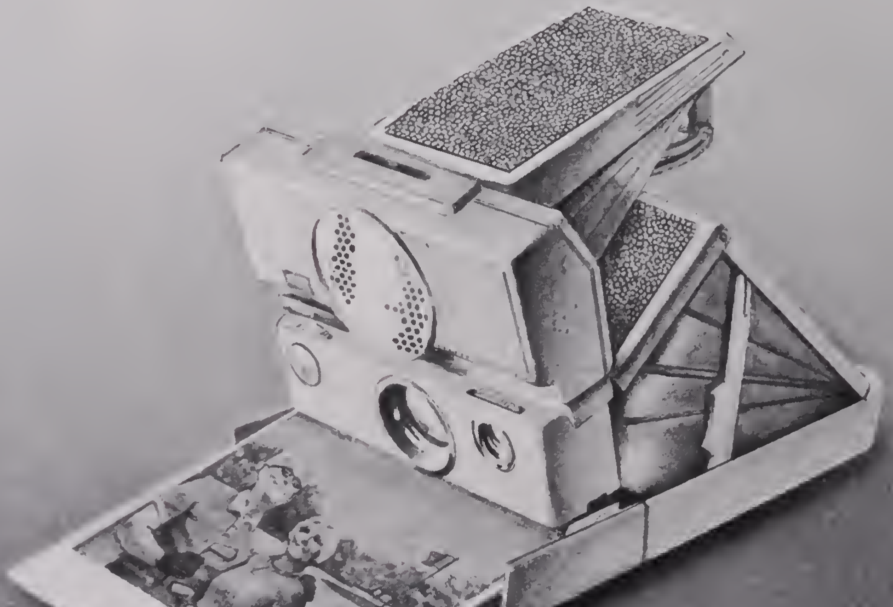

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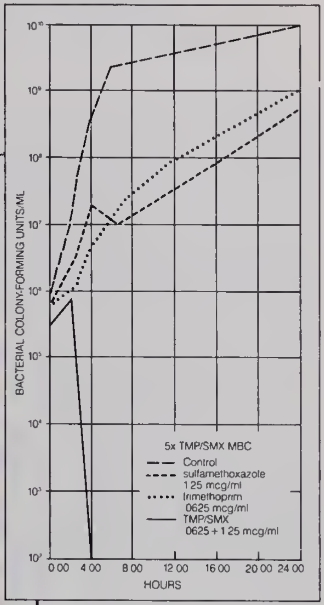
ampicillin	72% 345,209	5% 65,466	85% 67,338	16% 4381	70% 4402	10% 1775	9% 7759	11% 12,091
cephalexin†	81% 343,339	85% 67,031	92% 67,027	16% 4398	80% 4365	22% 1834	13% 7571	12% 11,846
nitrofurantoin	97% 307,785	65% 61,162	7% 59,775	13% 3848	14% 3059	67% 1707	60% 7109	67% 10,830

†Analogous to cephalothin, the primary antibiotic disc used in testing.
Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series, 1981-82.
Numbers under percentages refer to the projected number of isolates tested.

RAPID *IN VITRO* DESTRUCTION OF *E. COLI**



Kill curve kinetics of Bactrim and its individual components against *E. coli in vitro.*[1]

The bactericidal action of Bactrim has been demonstrated *in vitro* on laboratory strains of *E. coli*[1,2] and on clinical isolates of *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis* and *Morganella morganii*[3]—the most common causative organisms of urinary tract infections.[4] More than 100 published studies attest to the efficacy of Bactrim in recurrent urinary tract infections due to these organisms.[5] In comparative studies with other antimicrobials, Bactrim has consistently demonstrated unsurpassed efficacy during therapy.[6-11]

Resistance to Bactrim develops more slowly than to either of its components alone *in vitro.** Among urinary tract isolates, resistance has rarely emerged in susceptible strains.[5,12] Bactrim is contraindicated in pregnancy at term, during lactation, in infants less than two months old and in documented megaloblastic anemia due to folate deficiency.

Initial episodes of uncomplicated urinary infections should be treated with a single-agent antimicrobial.

Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

b.i.d. *for recurrent urinary tract infections*

**In vitro* data do not necessarily predict clinical results.

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See next page for references and a summary of product information.

References: 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Kramer MJ, Mauriz YR, Robertson TL, Timmes MD: Morphological studies on the effect of subinhibitory and inhibitory doses of sulfamethoxazole-trimethoprim combination on *Escherichia coli*. Presented at the 12th International Congress of Chemotherapy, Florence, Italy, Jul 19-24, 1981. **3.** Spicehandler J *et al: Rev Infect Dis 4*:562-565, Mar-Apr 1982. 4. Stamey TA: *Pathogenesis and Treatment of Urinary Tract Infections*. Baltimore, Williams & Wilkins, 1980, p. 13. **5.** Ronald AR: *Clin Ther 3*:176-189, Mar 1980. **6.** Cooper J, Brumfitt W, Hamilton-Miller JMT: *J Antimicrob Chemother* 6:231-239, 1980. **7.** Gower PE, Tasker PRW: *Br Med J 1*:684-686, Mar 20, 1976. **8.** Cosgrove MD, Morrow JW: *J Urol 111*:670-672, May 1974. **9.** Iravani A *et al: Antimicrob Agents Chemother 19*:598-604, Apr 1981. **10.** Schaeffer AJ, Flynn S, Jones J: *J Urol 125*:825-827, Jun 1981. **11.** Rous SN: *J Urol 125*:228-229, Feb 1981. **12.** BAC-DATA Medical Information Systems, Inc., Bacteriologic Reports, Winter Series, 1976-82.

Bactrim™ DS
(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:
Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli, Klebsiella-Enterobacter, Proteus mirabilis, Proteus vulgaris, Proteus morganii.* It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.
For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.
For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.
For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.
Also for the treatment of documented *Pneumocystis carinii* pneumonitis.
Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.
Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.
Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.
Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.
Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.
Dosage: *Not recommended for infants less than two months of age.*
URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:
Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.
Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.
For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.
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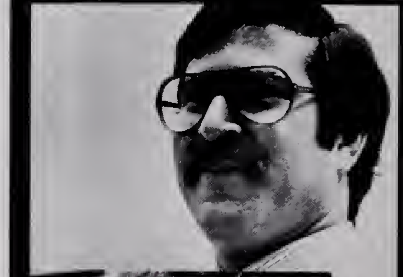

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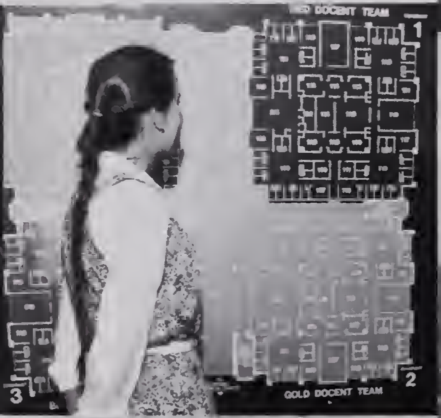

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Volume 80, Number 10 — October, 1983

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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Curriculum Packing

By
E. GREY DIMOND, M.D.*
Provost Emeritus
University of Missouri-Kansas City
School of Medicine

I HAVE BEFORE ME the minutes of one of the major departments of our medical school and there, moved and seconded, is a motion that pharmacology become an obligatory subject in Year Four and "that necessary curriculum changes be made to accommodate this." I turned to my files and there under "Suggested Curriculum Changes," are these gleanings of the University of Missouri-Kansas City (UMKC) School's first ten years. They are formal suggestions, even demands, by faculty:

- "No individual is literate who cannot speak a second language. All medical students must be required to have a minimum of two years of a second foreign language."
- "We are in an era of biophysical technology explosion. The medical students must be required to have much more physics and biophysics."
- "The physician of tomorrow will be illiterate unless he or she has mastered computer-use. We must require proof of computer-literacy before graduation."
- "We are not giving students the joy of carrying out fundamental research and carrying it through to a publishable paper. Every student should complete an original research project before graduating."
- "Do you realize that the American population is aging and that the care of the aging is one of the major future needs? Geriatrics must be a required subject for every medical student."
- "Modern physicians have become cold technocrats and have no understanding of the needs for compassion and decisions made with the whole patients well-being in mind. We must teach our students ethics, morality — and the holisticism of body, mind and spirit."
- "The greatest book ever written is the Bible. No one professing to be a healer should be allowed to leave school without a thorough knowledge of the Bible."
- "The American physician is unable to use the written language. It is wrong for an individual theoretically educated to be unable to compose and communicate in the written language. A basic requirement of the School should be this obligation to demonstrate competency in writing excellent English."
- "You refer to your goal as that of graduating a *safe* physician. No physician can be *safe* who is not *civilized*. The curriculum must include exposure to great ideas, the great men, the great literature of the Western world."

---

* Dr. Dimond is also Distinguished Professor of Medicine.

A Message From the Dean of the University of Missouri-Kansas City School of Medicine

As we enter our second decade as the second state-supported medical school in Missouri, we again welcome the opportunity to present in this special edition to the readers of Missouri Medicine *a series of articles written by faculty members of the University of Missouri-Kansas City School of Medicine (UMKC).*

A new experiment in medical education in the United States has now become a reality, and it is gratifying to see traditional schools of medicine accept and implement some of our original concepts, i.e., early admission, integration of "premedical" education into a medical school curriculum, and small-group teaching.

Dr. E. Grey Dimond, the original architect of the Academic Plan of the UMKC School of Medicine and now Provost Emeritus, in the first article of this issue, "Curriculum Packing," offers a review of our experience and the challenges that medical schools face today in properly preparing the physicians who will serve our citizens in an ever-changing world.

Harry S. Jonas, M.D.,
Dean

- "How can a physician judge the medical literature unless he knows that what he is reading is reliable? Every student must have a thorough exposure to statistics. One cannot accept medical literature as valid unless one can analyze the statistical method upon which the study was based."
- "The greatest mistake of this era of scientific medicine is that it ignores the overwhelming role of the mind. The curriculum needs much more organized, formal instruction in psychiatry."
- "No student should be allowed to go forward to Year Three who has not already a firm grasp of biochemistry and physiology. Curriculum time must be found in years one and two for much more teaching of these essential subjects."
- "The understanding of people is an essential need of the physician and he must really understand psychology — but before we can teach psychology, the student must take a required course in pre-psychology."
- "One of the greatest ills attacking the whole American Society is poor nutrition. Physicians are not even taught nutrition in medical school. Every medical school must be required to teach nutrition."
- "Learning anatomy requires seeing it in three dimensions. We must incorporate cat dissection into our basic required subjects."
- "Above all, a student must be told how to learn, for it is lifetime learning that will insure the safe physician of whom you speak. There must be in the curriculum formal instruction on how to study, how to read an article, how to outline, how to take notes, how to use the library."
- "Sir, I cannot believe that you have a school in which ENT is not a required experience for every student. Do you realize the multiplicity of diseases affecting mankind that involve the ears, nose and throat? Every student must have a planned exposure to the skills of this essential field."
- "I really do not see how you can allow these young people to go out of here and not have at least some idea about the clotting system. Almost everything that happens to one, whether a stroke, or a heart attack or a peptic ulcer involves clotting."
- "Your unwillingness to spend time to understand Ulysses, Finnegan's Wake, and the seminal work of Proust, D. H. Lawrence, and Kafka is but evidence of why physicians no longer understand patients. From the tragedies and the remarkable dramas of mankind developed by these authors, one learns about the problems your patients face. It is imperative, Doctor, that the physician learns about the modern world and what possible better way than through the novelist and playright?"

I have not included the correspondence that declared curriculum must be elaborated to include alcoholism, mathematics, great artists and acupuncture — but I do need to add that from our graduates we have received these suggestions:

- "My only regret is that I didn't take more time to play."
- "I wish I had studied harder."
- "My advice is to take all the electives you can."

- "I wish you had taught me something about medical economics and investments."

- "Don't fool yourself. The hard part of the course begins after you graduate. The Residency years are really where learning begins."

What can a medical school do to satisfy all of these substantial demands for curriculum time or, stated more tellingly, these requests for pieces of the life of each medical student? For in its plainest dimension, this issue comes down to how much of a person's life can be used "getting ready." To become a family physician or an internist in a traditional medical school now requires 23 years of obligated "getting ready" education: primary and secondary school, 12 years; college, four years; medical school, four years; and residency, three years. And there is an almost universal discontent with the present system of pre-medical education.

The University of Missouri-Kansas City (UMKC) curriculum was "invented" as a deliberate effort to offer a reasoned alternative to the problems, criticisms and flaws of American medical education. The UMKC concept, too, has its problems, criticisms and flaws, but most of these have stemmed from the fiscal era in which the school was launched. In spite of the budget burdens borne by the system in its ten-year trial, the "six years directly from high school integrated double-degree, role-model system" has solved some of the major flaws of the traditional system. Our graduate is spared the painful cynicism produced by the pre-medical "rat race," as it is so often called. A relevancy between clinical competency and basic science is well-interwoven. A constant image of the significance of compassion and humanism is held before the student. The personal obligation of self-renewal and of lifetime learning is carried by each graduate.

Risks to these achievements come from demands for "obligated" curriculum time. Every hour of obligated or required time takes away the tremendous value of flexibility and ability to shape the curriculum to fit the individual student's needs. Every course forced into the curriculum means that some other opportunity is lost. Every hour of curriculum should face but one critical question: "Over the 40 years of this physician's service to mankind, will this exposure help this woman or man to be a self-renewing, trustworthy, compassionate, happy physician?" Note I did not include learned. It is obvious that each of his teachers would have had a different interpretation of that condition. Does it mean enjoyment from Dante's Inferno or an awareness of the rhythmic message of Rimsky-Korsakov's Scheherazade or joy in analyzing the play of color and light of a Van Gogh or does it mean an ability to speak and read Chinese or derive an equation or to discuss the court of the Sun King?

No man living today has the remotest idea of what this world will be like in 2010, yet these students of today will be just 50 years old then, and at the peak of the response of their responsibility. No one knows what their world will be in 2010, but a faculty of 1983 can be certain that the ageless values of self-renewal, trustworthiness, compassion — and personal happiness — will still be premier values.

So, as we watch this School experience the always well-meant demands for curriculum time and as we see other schools attempting to modify their use of the future physician's precious living-time, one can only hope that the true goal of such enthusiasts is the quality of the physician.

Stated differently and in summary: facts change, theories change. The "hard" data of today is obsolete almost at once. The prescribed literature, art, music of one era may be unappreciated in the next. Even disease changes. The typhoid, polio, syphilis and tuberculosis scourges of just yesterday are minor issues today. But there are gentleness, kindness, compassion — and self-renewal and personal happiness — can we not agree that *they* are the "hard" curricular obligations . . . are they not the enduring values by which a faculty must measure its efforts?

Reprints

Reprints of scientific articles in this issue may be ordered by writing to the author in care of the University of Missouri-Kansas City School of Medicine, 2411 Holmes St., Kansas City, MO 64108.

ROGER LANDER, Pharm. D., Kansas City

Verapamil/Beta-Blocker Interaction

A Review

VERAPAMIL is a newly approved calcium-channel blocking agent indicated for use in the treatment of paroxysmal supraventricular tachycardia (PSVT) and for the control of ventricular rate in atrial flutter or fibrillation.[1, 2] The need often arises to administer more than one agent to a patient with PSVT or atrial fibrillation or flutter. Beta-adrenergic blocking agents are also used to treat PSVT. The antiarrhythmic effectiveness of beta-blockers is widely discussed in the literature,[3-11] but exact percentages of successful conversion to normal sinus rhythm are usually not stated.

Since beta-blockers are not 100% successful in converting PSVT to a normal sinus rhythm, it is often necessary to administer a second agent. Verapamil might be chosen as an alternative agent in these cases. However, the manufacturers of verapamil list the use of intravenous (IV) verapamil and IV beta-blockers in close proximity (within a few hours of each other) as a contraindication.[1, 2]

The basis for this contraindication is that both agents may have a depressant effect on cardiac contractility and atrioventricular (A-V) conduction.[1, 2] In rare instances, serious drug interactions have occurred when patients with cardiomyopathy, congestive heart failure (CHF) or recent myocardial infarction were given concomitant IV verapamil and IV beta-blockers.[1, 2] The circumstance may arise when combined therapy with IV verapamil and IV beta-blockers would be used, but the manufacturer's stated contraindication may hinder the combined use of these two drugs. In making therapeutic decisions, the clinician would benefit greatly in knowing the significance of this interaction, what specific types of patients are most likely to suffer adversely from their combined use, and how to reduce the incidence and severity of adverse interaction. The purpose of this paper is to: 1) review the literature in order to clarify the significance of the reports involving adverse interaction between IV verapamil and oral or IV beta-blockers; (2) delineate whether certain patient characteristics increase the risk of adverse interaction; and (3) provide specific recommendations for the concomitant use of these two classes of drugs.

BACKGROUND

The primary pharmacologic action of verapamil is to decrease or block the slow channel flow of calcium ions into the cell in both myocardial and smooth muscle tissue. This is accomplished by the drug's impairment of membrane located binding sites to accumulate calcium,[12] thereby inhibiting the transmembrane flow of calcium ions. This results in slowed conduction of electrical impulses in myocardial conduction tissue and a decrease in myocardial contractile force and smooth muscle tone.[13-15]

Within the conduction system of the heart, verapamil slows conduction in both the S-A and A-V nodes. By blocking this system, verapamil can significantly prolong intranodal conduction, producing a slower ventricular rate in atrial flutter or fibrillation and a break in the reentrant circus rhythm involved in PSVT.[13] Verapamil also causes smooth muscle relaxation, leading most notably to a fall in vascular tone with resultant peripheral vasodilation.[14] Beta-blockers produce a negative inotropic effect by direct interference with the ability of the sarcoplasmic reticulum to accumulate calcium and also interfere with the activity of calcium stimulated ATP-ase.[16, 17]

When verapamil is administered, its vasodilatory effects produce a sympathetic reflex that (through increased cardiac conduction and contractility) opposes verapamil's direct depressant effects on the cardiac conduction system.[18] When verapamil is administered alone, the body's sympathetic reflex is left intact. However, when verapamil is combined with propranolol, these reflex mechanisms are blocked.[19] In addition, these drugs both decrease the inotropy, chronotropy and dromotropy of the heart. These actions certainly provide a pharmacologic basis for interaction. Indeed, Krikler[13] suggests that "their combined administration might paralyze the myocardial cell."

Verapamil is a newly approved calcium-channel blocking agent marketed in both oral and intravenous form. The intravenous preparation is approved for the treatment of paroxysmal supraventricular tachycardia and for control of ventricular rate in atrial fibrillation or flutter. Since beta-blockers are also commonly used in paroxysmal supraventricular tachycardia, there is a question about whether these two agents may be employed in close temporal relation to one another. The author summarizes the available literature concerning adverse interaction between these two agents.

Dr. Lander is Assistant Professor, University of Missouri-Kansas City School of Medicine and School of Pharmacy and Docent Clinical Pharmacist, Truman Medical Center.

LITERATURE REVIEW

Reports of adverse reactions in patients given verapamil alone, as well as adverse reactions following the concomitant administration of verapamil and oral or IV beta-blockers, will be reviewed. Cases involving verapamil alone are reported to provide perspective to this problem and for analysis of adverse reactions incidence. All cases are presented in Table 1.[20-29]

A study by Hartel *et al*[30] is the only crossover comparison of IV verapamil and an IV beta-blocker in patients with PSVT. Each group consisted of 20 patients. One group was given 5 mg of IV verapamil and the response was observed. Those patients who failed to convert were given another injection (same dose) five minutes later. If the patients still had not responded after 30 minutes, they were given 5 mg of IV practolol.

The opposite group was given practolol, utilizing the same protocol. If they failed to respond within 30 minutes after the second injection, they were given 5 mg of IV verapamil. Seventeen patients converted to sinus rhythm after the first injection of verapamil, and two of the three remaining patients responded after the second injection. The non-responder in this group converted to sinus rhythm after practolol administration.

In the practolol treated group, three patients responded after the initial injection, and five additional patients converted after the second injection. One patient in this group, after the first injection, developed hypotension and lost consciousness, requiring direct current cardioversion. The remaining 11 patients in this group were then given IV verapamil, which restored sinus rhythm in eight and converted an additional patient to atrial fibrillation (her underlying rhythm). One patient receiving verapamil alone developed hypotension that required an isoproterenol infusion to maintain blood pressure. No adverse reactions occurred in any patient given both IV verapamil and IV practolol (12 such cases) in this study. However, the authors point out that the dosage of practolol was not maximal, as it is usually given in 5 mg increments to a total of 20 to 25 mg.

DISCUSSION

As can be seen in Table 1, verapamil alone can cause significant adverse cardiovascular effects, most commonly in patients with significant cardiac failure,[20, 21, 24] cardiomyopathy,[23] or S-A node dysfunction. The manufacturer's literature states that interaction of IV verapamil and IV beta-blockers has occurred in patients with underlying cardiac illnesses.[1, 2] However, as shown in Table 1, several cases include no mention of any underlying cardiac disease. This is of importance since it would seem that the lack of underlying cardiac disease does not rule out the possibility of adverse interaction.

It is difficult to evaluate the significance of this interaction since most reports are uncontrolled, retrospective observations. Since adverse effects may occur following the use of IV verapamil alone, it is also difficult to assess the difference, if any, in the occurrence of an adverse effect after verapamil alone vs verapamil in combination with a beta-blocker. In the only deliberate crossover of IV verapamil and an IV beta-blocker, no adverse interaction occurred in the group of patients given both drugs, although less than optimal doses of practolol were used.[30]

Krikler[13] points out that since verapamil's duration of action is shorter than that of beta-blockers, one could administer verapamil initially, and, if the patient fails to convert, could then add beta-blockers. Verapamil's hemodynamic effects and ventricular slowing persist for only ten to 30 minutes in patients with atrial fibrillation or flutter. However, His-bundle studies show that verapamil impairs A-V conduction for up to six hours.[31] Thus, verapamil may be preferentially bound to the A-V node and the action at this site might last considerably longer than the hemodynamic effects. Since A-V nodal conduction is also

TABLE 1

Adverse Reactions Following Intravenous Verapamil Alone and With Concomitant Oral or Intravenous Beta-blockers

Ref. No.	Patient Data	Verapamil Dose/Route	Beta-Blocker Dose/Route	Indication for Therapy	Adverse Effect	Concomitant Therapy	Underlying Disease	Final Outcome
21.	46-y.o.m.	10 mg over ½ min IV	None mentioned	A. fibrillation V. rate = 200	Hypotension (Sp=50; HR=100)	None mentioned	Viral myocarditis; CHF	Improved over 30 min.
21.	45-y.o.m.	2.5 mg IV over ½ minute	None mentioned	A. flutter 2:1 A-V cond	10:1 A-V Block V. Rate = 30	Dig 1.75 mg over 24 hrs; Quinidine 200 mg.	Heart transplant 22 days prior	Improved; Required cardioversion
21.	63-y.o.m.	10 mg IV over 2 to 3 minutes	None mentioned	A. flutter V. Rate = 130	Asystole after 1 min; then 3° A-V block	Temp. pacing Dig, diuretic, Morphine	Post — MI; Cardiogenic Shock	Died from hypotensive shock
22.	41-pts.: post-MI 42: Angina	125 administrations; 10 mg IV	None mentioned	AMI PSVT	2-Bradycardia 1-Hypotension 1-1° A-V block	None mentioned	AMI; Angina	All resolved
24.	6 cases	3-IV + PO 3-PO only	None mentioned	A. fibrillation PSVT	Cardiogenic shock	4-Digoxin and Diuretics	Present in all six	Two fatalities
23.	59 pts.	83 administration PO or IV	8 pts. — dose, route, or which pts. not stated	A. fibrillation PSVT	4 after IV; 3-Hypotension 1-Bronchospasm	23-Digoxin 6-Quinidine	38-Cardiomyop. 5-Coronary Insufficiency	All resolved
25.	6-mth. old child	1.25 mg IV; repeated in 15 minutes	Practolol Dose not given	PSVT; rate = 240	Asystole 10 min after 2nd dose	Digoxin;Furosemide; Phenytoin	CHF 2° to myocarditis	Revived with CPR, Calcium, and Isuprel
26.	68-y.o.f.	10 mg IV	Practolol PO 400 mg/d	PSVT	Asystole	None mentioned	Known S-A node disease	Required temp. pacemaker
27.	2 cases	10 mg IV	Specific agent not stated	Paroxysmal Ventricular Tachycardia	Cardiac arrest	None mentioned	None mentioned	Required CPR
29.	57-y.o.m.	7 mg IV; 30 min after Practolol	Practolol 600 PO Prophylaxis; then 20 mg IV	PSVT; rate = 160; BP = 90/70	Hypotension, asystole	None mentioned	None mentioned	DC countershock 1° A-V block to NSR
25.	70-y.o.m.	5 mg IV over 5 minutes	Practolol 20 mg IV 40 min prior to verapamil	PSVT; rate = 160	Asystole	Digoxin prophylactically	None mentioned	CPR and Isuprel; then Cardioversion
26.	32 pts.	Dose not stated; Given IV	3-PO prophyl. 4-no history	PSVT	Hypotension SP=40-60 SP=80-100	None mentioned	None mentioned	All resolved
26.	7 pts; 1 described; 64-y.o.f.	Dose not stated; Given IV	IV Propranolol and Practolol Dose not stated	WPW Syndrome with PSVT and V. fibrillation	Asystole	None mentioned	None mentioned	Patient Died

suppressed by beta-blockers, the above mentioned recommendation to administer verapamil first to avoid long waiting periods between administration of these agents may not be appropriate.

Several points should be emphasized when considering this interaction. Because beta-blockers are widely used in clinical practice and verapamil and beta-blockers are both effective in the treatment of supraventricular tachycardias, this interaction is of considerable clinical significance. However, in many instances, the problems that have arisen may represent the inappropriate management of the patient (e.g., administering verapamil to patients in cardiogenic shock).

When a patient has a supraventricular arrhythmia and has been receiving oral beta-blockers, it would seem to be safe to administer IV verapamil only if continuous monitoring is possible. Krikler[26] reported one case of asystole in a patient receiving an oral beta-blocker; however, the patient had known S-A nodal disease. Indeed, extra caution should be observed for patients with nodal dysfunction or severely compromised ventricular function.[32]

Most published reports involving IV verapamil and IV beta-blockers do not discuss the presence of underlying cardiac disease, but it may have been present in some. Since His-bundle studies have shown the effects of verapamil to last up to six hours on the A-V node, IV beta-blockers should not be administered for at least six hours after IV verapamil. When IV beta-blockers are given first, their duration of effect will vary with (1) the dose; (2) the particular beta-blocker employed; and (3) prior beta-blocker therapy.[33] It would seem prudent to observe the same six-hour interval, with adjustment based on clinical information available in any particular case. Although cases of adverse interaction in patients with and without underlying cardiac disease do exist, it seems reasonable to avoid the concomitant use of these agents in patients with known S-A nodal disease, CHF or cardiomyopathy. Indeed, verapamil should be used with great caution in these patients, even when given alone.

Conclusion

In conclusion, verapamil alone should be used cautiously in patients with underlying cardiac disease (acute myocardial infarction, cardiomyopathy, CHF, or S-A nodal dysfunction). When patients who receive oral beta-blockers are given IV verapamil, they must be monitored closely, especially when underlying cardiac disease is present. Administration of IV verapamil and IV beta-blockers to patients with any of these underlying cardiac illnesses should be separated by at least six hours, regardless of the order of administration. In patients with S-A node dysfunction, CHF or cardiomyopathy, the combined use of IV verapamil and IV beta-blockers should be avoided. Alternative therapy after one of these agents has been administered can be chosen with less resultant risk for the patient. In PSVT, procainamide, quinidine, lidocaine, and/or digoxin may be given if contraindications do not exist. In atrial fibrillation or flutter, acceptable therapeutic alternatives would include digoxin, quinidine and/or electrical cardioversion.

Finally, if an adverse interaction does occur after administration of concomitant IV verapamil and oral or IV beta-blockers, treatment should consist of atropine, isoproterenol, calcium and/or temporary pacing when necessary. Further studies are needed to better delineate the precipitating factors involved in this interaction.

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> Just be glad you're not getting all the government you're paying for.
>
> —Will Rogers

JULIE A. ELROD, M.D. *and*
LLOYD C. OLSON, M.D., *Kansas City*

Necrotizing Cellulitis Associated With *Haemophilus Influenzae*

Case Report

SEVERE NECROTIZING SOFT TISSUE INFECTIONS represent a common response to infection with a variety of bacterial species. Infections not caused by clostridia may be associated most commonly with streptococci, but staphylococci and Gram-negative rods are also reported.[1] One report documents *Streptococcus pneumoniae* as the cause.[2] The diverse causes of a distinctive clinical entity suggest that the soft tissue reponse, more than the inciting agent, is responsible for the observed clinical features.

To our knowledge, *Haemophilus influenzae* type b (HIb) has never been reported as a cause of necrotizing cellulitis. Following is a discussion of such a case.

Necrotizing cellulitis not associated with clostridial infections are usually caused by streptococci with staphylococci and Gram-negative bacilli playing variable roles. Here, for the first time, a case of necrotizing cellulitis associated with Haemophilus influenzae is reported. The authors also discuss possible pathogenic features.

Dr. Elrod and Dr. Olson are from The Children's Mercy Hospital and the Department of Pediatrics, University of Missouri-Kansas City School of Medicine.

CASE REPORT

The patient was a 13-month-old boy who was transferred to The Children's Mercy Hospital from a distant hospital in August, 1980 because of the development of a large necrotic lesion over the left lateral thorax.

The patient, with known Down's syndrome, had been hospitalized in another state ten days prior to transfer after a three-day history of fever. He had been treated with intramuscular and oral ampicillin and acetoaminophen. Pneumonia had been diagnosed radiographically at the other hospital upon his admission. His temperature was 40.2 C (rectally) and ampicillin therapy was continued. Eight days prior to his transfer, a "bruise" was noted over the mid-axillary region on the left. This was described as a tender warm area of bluish discoloration appearing for inexplicable reasons. There had been no known trauma to the area, no traumatic lesions were noted at the time and the patient remained febrile (39 C). By the next day, the area had enlarged. By six days prior to transfer, necrosis had developed in the center. Erythromycin therapy was added at that time. Two days later when the patient remained febrile, the area of induration had enlarged and the necrotic area had spread, cephalexin therapy was initiated. With progression of the lesion, the patient was transferred.

On admission, the patient showed typical findings of Down's syndrome and his temperature was 39.3 C rectally. In addition, there was a 6 x 7 cm area of necrosis in the left mid-axillary line just above the lower costal margin. This was surrounded by hot, swollen and very tender induration extending down to the left upper thigh, up to the upper left neck and down to the upper left forearm (Fig. 1). Large tender lymph nodes were palpable in the left axilla and left anterior cervical chain. The white blood cell count was 22,300/cu mm with 44% segmented polymorphonuclear leukocytes, 41% band forms and 3% metamyelocytes. A chest x-ray showed normal lung findings but massive soft tissue swelling and distortion of tissue planes over the left lateral thoracic wall. However, no gas bubbles were seen. Cultures of purulent material taken directly in the center of the wound were inoculated onto blood and chocolate agar plates incubated under reduced oxygen tension and into thioglycollate broth. A blood culture obtained at the same time was sterile, but pure culture of abundant *H. influenzae* type b was recovered from the wound. The organisms were resistant to ampicillin by disk sensitivity and positive for β-lactamase production.

The patient was initially treated with intravenous penicillin, nafcillin and tobramycin. The wound was cleaned of purulent material. Obvious necrotic tissue debrided leaving a defect approximately 6 x 8 cm extending down to the ribs and intercostal muscles (Fig. 2). The superior and inferior edges of the lesion were cultured, both yielding luxuriant growth of *H. influenzae* type b. A blood culture and an aspirate from the edge of the indurated area were sterile.

Intravenous chloramphenicol was substituted for

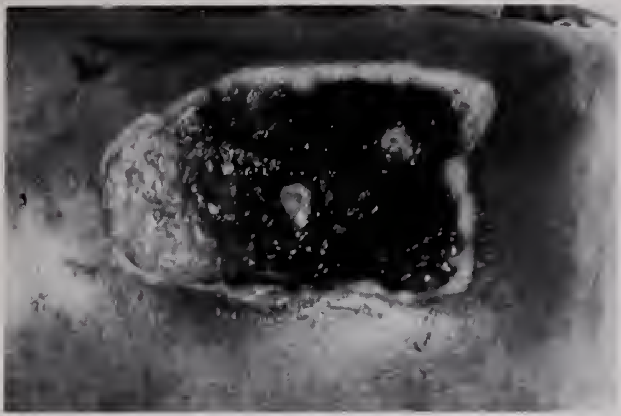

Fig. 1 Diagram illustrates extent of indurated and necrotic areas at initial presentation.

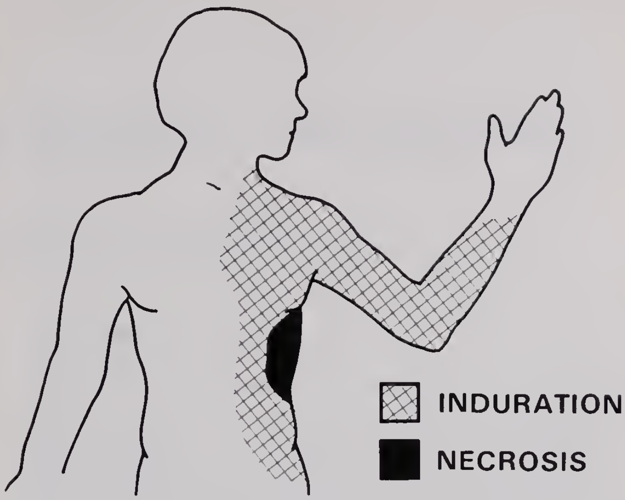

Fig. 2 Left lateral thoracic wall after initial debridement.

the tobramycin and penicillin on the second day. The area of induration, lymphadenopathy and fever gradually responded over the next three days. Intravenous antibiotics were continued for a total of 12 days, and wound debridement and cleaning were carried out daily. Two weeks after admission, surgical debridement was carried out in the operating room; two weeks thereafter, a split thickness skin graft was applied. When last seen one year later, the wound was well-healed.

Comment

This case appears to be a previously unreported example of acute necrotizing cellulitis secondary to HIb infection. The question obviously arises as to why such an unusual manifestation occurred in this child. There would seem to be three possible explanations:

1. Necrotizing cellulitis may represent an advanced stage of the natural history of *H. influenzae* cellulitis. The early course of illness (acute febrile disease and bluish tinged cellulitis) was entirely consistent with classical early disease. However, the organisms were ampicillin-resistant and the use of otherwise ineffective antibiotics may have allowed the disease to progress for a prolonged period prior to appropriate therapy. Against this as a sole explanation is the fact that while *H. influenzae* cellulitis and abscess formation in the pre-antibiotic era were rarely documented (see especially the discussion by Branson[3] and by Wollstein[4]), the local lesions were not noted to become necrotic.
2. The observed lesion might represent an abnormal host response. Patients with Down's syndrome have been shown to have qualitative deficiencies of cellular immunity[5] and T-cell function may be involved in immunity to HIb.[6] The patient's otherwise past history of good health and ability to contain the infection (lack of dissemination to other sites and negative blood culture) argue for intact humoral immunity.
3. The necrotizing process may have been due to another cause and the *H. influenzae* recovered from the lesion may have represented a superinfection or a synergistic process. One consideration at the time the patient was admitted was that the lesion resulted from necrotic arachnidism. If so, the spider bite would have to have occurred while the patient was in the other hospital; the clinical course would not account for the prodromal illness and would have been atypical especially insofar as the response to chloramphenicol. Another possibility would be a synergistic gangrene such as that seen with group A β-hemolytic streptococci and unknown host factors (Meleny's gangrene[7]) or as a synergistic infection with anaerobic streptococci and *Staphylococcus aureus* or Proteus (Meleny's synergistic gangrene[8]). Appropriate cultures for strict anaerobes were not obtained so they cannot be ruled out in the present case. However, neither entity has been previously reported in association with *Haemophilus* and both are typically associated with trauma — especially abdominal surgery.

In conclusion, this case represents a very unusual infection associated with *Haemophilus influenzae*. Factors involved in necrotizing cellulitis in the second case may have involved the

(Continued on page 634)

STEPHEN H. CRUIKSHANK, M.D., *Kansas City*

Premenstrual Syndrome

A Review and Update

PREMENSTRUAL SYNDROME (PMS) has been recognized for more than 50 years. R. T. Frank first defined the syndrome in 1931. While this was a lengthy but accurate definition, a more appropriate definition probably would be as follows: PMS is a constellation of symptoms that can range from mild to incapacitating. The symptoms occur in a cyclic pattern and always in the same phase of the menstrual cycle, interferring with work or lifestyle. If the period is delayed, the severity of symptoms increases. Following the onset of menses, there usually is a period that is entirely free of symptoms.

SYMPTOMS

Classically, symptoms range from one or two to eight or nine in number. Today, PMS is recognized as a constellation of different symptoms, including breast tenderness, headaches, bloating, irritability, depression, insomnia, generalized discomfort and craving for different foods.

Impressive weight gain occurs only occasionally. The headaches are rarely migraine in nature. More likely, they are general headaches and occur frequently during the premenstrual period. These symptoms are often accompanied by feelings of irritability, tension, depression and insomnia. Also, some authors have noted increased thirst or appetite, and craving for sweets or salty foods.

Katrina Dalton has heralded the premenstrual syndrome since the early 1950s. According to her, there are three basic patterns to the cyclic nature of the syndrome:[1]

1. Symptoms occur during late premenstruum.
2. Symptoms occur at ovulation, resolve and then reappear during the premenstruum.
3. Symptoms occur at ovulation and gradually increase in severity throughout the luteal phase.

As stated in the definition, the symptoms *usually* cease with the onset of menses. However, Dalton has claimed that termination of symptoms can also occur in one of the following three patterns:

1. Relief may occur abruptly with onset of flow.
2. Relief may occur a day before flow.
3. Symptoms may resolve gradually during menstruation.

The definition of this syndrome can be extended by realizing that there may be the inability to concentrate, forgetfulness and increased susceptibility to accidents. Some women report impaired judgment with reduced self-confidence to the point that they are reluctant to perform simple tasks such as driving a car, doing the laundry, and going to the supermarket.

PREVALENCE

The epidemiological data on PMS is misleading because of the variable interpretations of symptoms and the problems in quantitating the syndrome. Approximately 70% to 90% of all women admit to some form of PMS. Twenty percent to 40% of these women report some degree of temporary physical or mental incapacitation.

There are many problems regarding the estimates of prevalence; many of the reports are taken from selected populations,[2] such as women attending special clinics or undergoing gynecological surgery. Another problem is that behavior is related to menstruation in retrospect. Women have been conditioned by our culture[3] to experience certain symptoms in the premenstrual phase and have been taught to expect fluid retention, pain, emotional reactions, etc. There is much experimenter expectancy effect and bias and, again, the studies have not been well controlled.

DIAGNOSIS

To date, there are no objective tests for making the diagnosis of PMS. According to Dalton, the type of symptoms or the exact symptoms are irrelevant. The diagnosis is made by accurately charting the cyclic nature of the symptoms on a menstrual calendar. These changes are used for recording recurrent symptoms in each woman's cycle. No laboratory test has been shown to be helpful in diagnosing PMS.

ETIOLOGY

To date, there is really no one specific cause. We think it is an aberration of the cyclic function of the hypothalamic-pituitary-ovarian axis. However, there have been at least eight different theories on the etiology. Three are reviewed in the following paragraphs:

1. *Sex Steroid Balance*

Many have thought PMS is due to either estrogen excess or progesterone deficiency. There have been no large double-blind controlled trials using progesterone that have proved this theory. However, this is what Dr. Dalton uses for treatment.[4] She makes the statement that the problem must be the natural occurring progesterones. According to Dalton, there is a relative progesterone deficiency in the luteal phase. The naturetic, central nervous system (CNS)- sedative effects and the placebo effect of progesterone are probably responsible for the response that is seen when progesterone is used. This is the most widely accepted treatment for premenstrual syndrome. Dr. Dalton's dosage is 50 mg to 200 mg daily given intramuscularly or 200 mg to 400 mg twice a day by vaginal or rectal suppository.[4] This is started five days prior to the usual time of symptoms and the patient is treated until menses or until the symptoms abate during menses. Problems with progesterone include the following:

1. Abnormal bleeding
2. Hemorrhage
3. Weight gain
4. Decreased libido
5. Dizziness
6. Vaginal infection
7. (?) liver adenomas

2. *Vitamin Deficiency*

This theory states that vitamin B complex deficiency leads to an estrogen excess because of impaired liver metabolism.[5] As we know, however, it was demonstrated in women with severe vitamin deficiency during wartime that this could not be possible because they had normal estrogen metabolism.[6] Another theory is that B_6 acts as a coenzyme (Paradoxal Phosphate) in the final step of biosynthesis of dopamine and serotonin. Because of this, B_6 could augment dopamine biosynthesis thereby depressing prolactin secretion, inhibiting lactation. These effects gave merit to the use of vitamin B_6. Enough studies to substantiate this theory are lacking.

Premenstrual syndrome has been recognized for more than 50 years. A review of this physiologic entity is presented in depth. The author discusses various causes and treatments. However, no single cause or treatment has revealed the entire story of this serious syndrome.

Dr. Cruikshank is from the Department of Obstetrics and Gynecology, University of Missouri-Kansas City and Truman Medical Center.

3. *Prolactin*

Another theory is based on prolactin. Here, studies have shown that women with PMS are at a high risk for prolactin excess. However, most studies show no significant difference in prolactin levels throughout the menstrual cycle. The majority of the studies show that levels were normal or high-normal throughout the cycle when compared with women who did not have PMS.[11] However, prolactin may have a very important role. Prolactin leads to water retention, at least, and sodium and potassium retention. This produces thirst; it also produces characteristics that cause cyclic edema.

Bromocriptine, a long-acting dopaminergic agonist, has been tried. If the dopamine is related, this has a prolactin inhibitory factor (PIF) that decreases the elevated prolactin or the sensitivity of the tissues to prolactin.

My theory deals with prolactin — not that there is an excess but that there may be an increased sensitivity to prolactin in association with an increased number of prolactin receptors. One of the targets of prolactin is the kidney with retention of water, sodium and potassium. If there is a decrease of prolactin or of the sensitivity, the excretion is stimulated. Bromocriptine, being a dopamine agonist, will increase the release of neuroamines and help to increase or elevate mood and self-esteem.

There are approximately six controlled studies using bromocriptine. All show an improvement in mastalgia.[12] Others show that there are approximately three other symptoms that may be improved by the use of bromocriptine. These are breast tenderness, bloating and depression. These were significantly improved as well as the headaches and insomnia.

There obviously is a conglomeration of theories trying to point to one common etiology. So far, all of the treatments are intertwined. I believe in the prolactin theory, having used my patients as their own controls. However, a placebo or another drug were not used as a control. This is a self-report type control system in which patient reported one to three months of symptoms on a menstrual chart. After that, the patient is graded as to whether or not she has PMS. In order to be given bromocriptine, she has to have moderate to severe symptoms. "Moderate to severe" is considered a score of four to six on three or more of the symptoms.

After this, the latter patient group received a graded dosage of bromocriptine. The patient receives 1.25 mg per day two days before midcycle until menses. At the time of the first return visit, patients are asked if the symptoms have subsided. If not, the dose is increased to two tablets or 5 mg per day, mid-cycle until menses. The side effects of bromocryptine mesylate (Parlodel®) are few, but this is why the dosage is gradually increased for these patients. Nausea, vomiting, hypotension and dizziness are the most common side effects. To date, out of 20-plus patients, only one has stopped taking this medication because of the side effect of dizziness.

All the prolactin levels drawn so far in women with PMS have been normal and I have stopped drawing prolactin levels on a cost-benefit basis.

In conclusion, the most important factor is to take an accurate history and document whether there is true premenstrual syndrome. It is a good idea to have the patient record her symptomatology for two cycles before starting treatment. Once convinced of the nature of the problem, be sure that the problems listed are those that can be treated.

Premenstrual syndrome is a true physiologic entity. Moreover, it could be considered a psychoneuroendocrine problem. It is not purely psychogenic in nature. It must be dealt with on a rational basis, by both the physician and patient. The patient should not be "sloughed off" as "crazy." These women must be helped to realize that they have a problem and physicians are trying to understand it. Attempts to alleviate these symptoms must be made so that patients can have symptom-free months instead of symptom-free days.

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Necrotizing Cellulitis

(Continued from page 631)

natural sequelae of untreated cellulitis, host factors or synergism with other events.

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L. BEATY PEMBERTON, M.D., JANICE MANDAL, R.D., M.S.,
BETH LYMAN, R.N. *and* JOEL O. COVINSKY, PHARM. D., *Kansas City*

Developing a Metabolic Support Service

In 1970, one of the stated purposes of the University of Missouri-Kansas City (UMKC) School of Medicine was to improve its primary teaching hospital, Truman Medical Center (TMC). This report delineates the development of the Metabolic Support Service (MSS), which is one of the ways that this medical school has brought a new service for the TMC patients.

Background

Shortly after the new hospital building was occupied in 1978, a group of interested persons met to discuss the current methods of supplying parenteral and enteral nutrition for hospitalized patients and to develop ways of improving this service. Since Dudrick *et al*[1] used the term "intravenous hyperalimentation" to describe providing patients with all of their nutritional requirements parenterally, a group of health care professionals, who were working in this area, were often called the "hyperalimentation team." Although the group had a secondary interest in complete liquid nutrition by the enteral route, the main function of the hyperalimentation team was to improve the use of total parenteral nutrition (TPN). The primary persons who worked on this hyperalimentation team were at TMC only because they were affiliated with the School of Medicine. These four persons were a dietitian, an intensive care nurse, a clinical pharmacist and a general surgeon.

At its first meeting, the hyperalimentation team agreed to focus on TPN and to meet twice a month to discuss nutritional support and to devise protocols for solving the most common problems. After a few meetings, the hyperalimentation team developed four limited goals: (1) keeping TPN simple and inexpensive so that this form of nutrition could be used for patients who need it, (2) documenting the need for TPN, (3) increasing the safety of TPN and (4) evaluating the use and the cost of liquid enteral nutrition. The main service developed by the hyperalimentation team was training a group of nurses who changed most of the TPN catheter dressings two to three times per week.

After 14 months of devising protocols, investigating how both parenteral and enteral nutrition were delivered to TMC patients and changing most of the TPN catheter dressings regularly, the hyperalimentation team gathered enough information and insight to develop a proposal for a Metabolic Support Service (MSS).

Rationale

The rationale for this proposal involved the following observations and conclusions.

Since the introduciton of TPN as a powerful clinical tool by Dudrick *et al*[1] in 1968, many investigators[2, 3] have documented that all too often the sick patient dies from the complications of starvation instead of the disease or trauma that caused him/her to be in the hospital. If a patient is allowed to use body protein stores to meet energy deficits due to inadequate nutrition, he/she will be unable to heal or to develop an effective immune response against infection despite the exercise of excellent clinical judgment in the correct selection and delivery of medical or surgical therapy, or both. Nutritional assessment, which is simple, objective and reproducible, can identify malnutrition in the patient by documenting pro-

The Metabolic Support Service (MSS) at Truman Medical Center is the first in Missouri as an organized hospital department. Its goal to supply proper parenteral and enteral nutrition for hospitalized patients represents one of the stated purposes of the University of Missouri-Kansas City School of Medicine to improve its primary teaching hospital. The authors report its development, the protocols that are utilized and the results.

Dr. Pemberton is Medical Director of MSS and Vice-Chairman, Department of Surgery, Truman Medical Center and Professor, School of Medicine. Ms. Mandal is MSS Dietition and Ms. Lyman is Nurse Specialist, Truman Medical Center. Dr. Covinsky is Executive Director of MSS and Professor, Department of Medicine, School of Medicine.

tein deficits, immune response and energy requirements.

Using criteria developed from the nutritional assessment of patients, various reports[2, 4] have shown that an average of approximately 40% of both medical and surgical patients in a community or general hospital suffer from some degree of malnutrition. Even if these measurements of malnourished patients are only reasonably accurate, nutritional support in some form should be part of the therapeutic plan for a significant number of hospitalized patients.

Since nutritional support techniques involve the risks of both morbidity and mortality,[5] the MSS is needed to organize the safe, efficient delivery of this nutritional therapy and to provide the expertise necessary to minimize the morbidity and mortality from this form of therapy on a hospital-wide basis.[6, 7] In addition, the MSS should act as a cost control center that will monitor and reduce the costs of nutritional support by centralizing the purchase and delivery of all products used and by appropriately charging all patients who receive these services. In summary, a centralized MSS will improve the efficiency of delivering both parenteral and enteral nutrition to patients, increase the safety of nutritional support for patients, and augment the revenues of the hospital.

Implementation

In spite of the obvious advantages of this proposal, change is difficult for a complex institution like a hospital, particularly when involving several departments. Implementation of the proposal was slow. Following is the timetable:

1. *September, 1979* — A proposal was presented and discussed with the executive director of TMC. Monthly meetings with the dietary, pharmacy, administration and nursing departments followed this initial presentation.
2. *February, 1980* — Unanimous acceptance of the proposal by Professional Standards Committee was obtained.
3. *March to October, 1980* — Repeated discussions were held with the four departments involved in establishing the MSS. Final approval from the executive director was obtained in October.

On Nov. 1, 1980, the MSS became a recognized functioning department that was the first in Missouri as a department in a hospital and organized to serve all adult patients who received either parenteral or enteral nutritional support.

Methods

The MSS Services were supplied without assuming the primary responsibility for the patient's care. The attending physicians and house staff who were responsible for a patient's care would continue to write the orders needed to provide nutritional support. The MSS would supply consultative support and facilitate the safe and efficient delivery of parenteral or enteral nutrition to the patient.

To accomplish this plan, the MSS established a basic minimum routine or protocol that would assure that all patients would be monitored with appropriate tests and would receive catheter care and safe nutritional support. Although they could decide to do more than specified by the protocols, the patient's primary physicians would be encouraged to follow the minimum standard of care that the MSS had established.

The major initial goals of the MSS at TMC were as follows:

1. To establish standard orders or protocols for both parenteral and enteral hyperalimentation.
2. To decrease the rate of catheter sepsis by having trained registered nurses change the TPN catheter dressings using a standard technique.
3. To perform nutritional assessment of the patient and consultation to determine the need for nutritional support.
4. To provide nutrition education for medical students, residents and attending staff.
5. To provide optimum nutritional support and to keep accurate records for all patients who have indications for either TPN or enteral nutrition.
6. To identify the different categories of parenteral and enteral products and to eliminate the waste of having outdated products by decreasing the number of similar nutritional products available on the hospital formulary.

The MSS consisted of the following four disciplines: First, a full-time dietitian would help with nutritional assessments, monitoring of patients, choice of products, charges and record keeping. Second, a half-time clinical nurse would have the primary duty of changing all catheter dressings on all TPN patients in the hospital and would help in nutritional assessment and monitoring of patients. Third, a clinical pharmacist would help in providing consultations and nutritional assessments and would be responsible for ordering and preparing both parenteral and enteral products for patients. Finally, a physician would supervise the work of the MSS, make rounds to see the patients, and help to provide consultations and follow-up progress notes. In addition to these team members, the pharmacy would designate a specific pharmacist to make daily rounds, to provide sterile manufacturing services, to formulate special products recommended by the MSS, and to supply all enteral products.

RESULTS

The original goals will serve as a guide for reporting the progress of the MSS during the first 30 months. They are as follows:

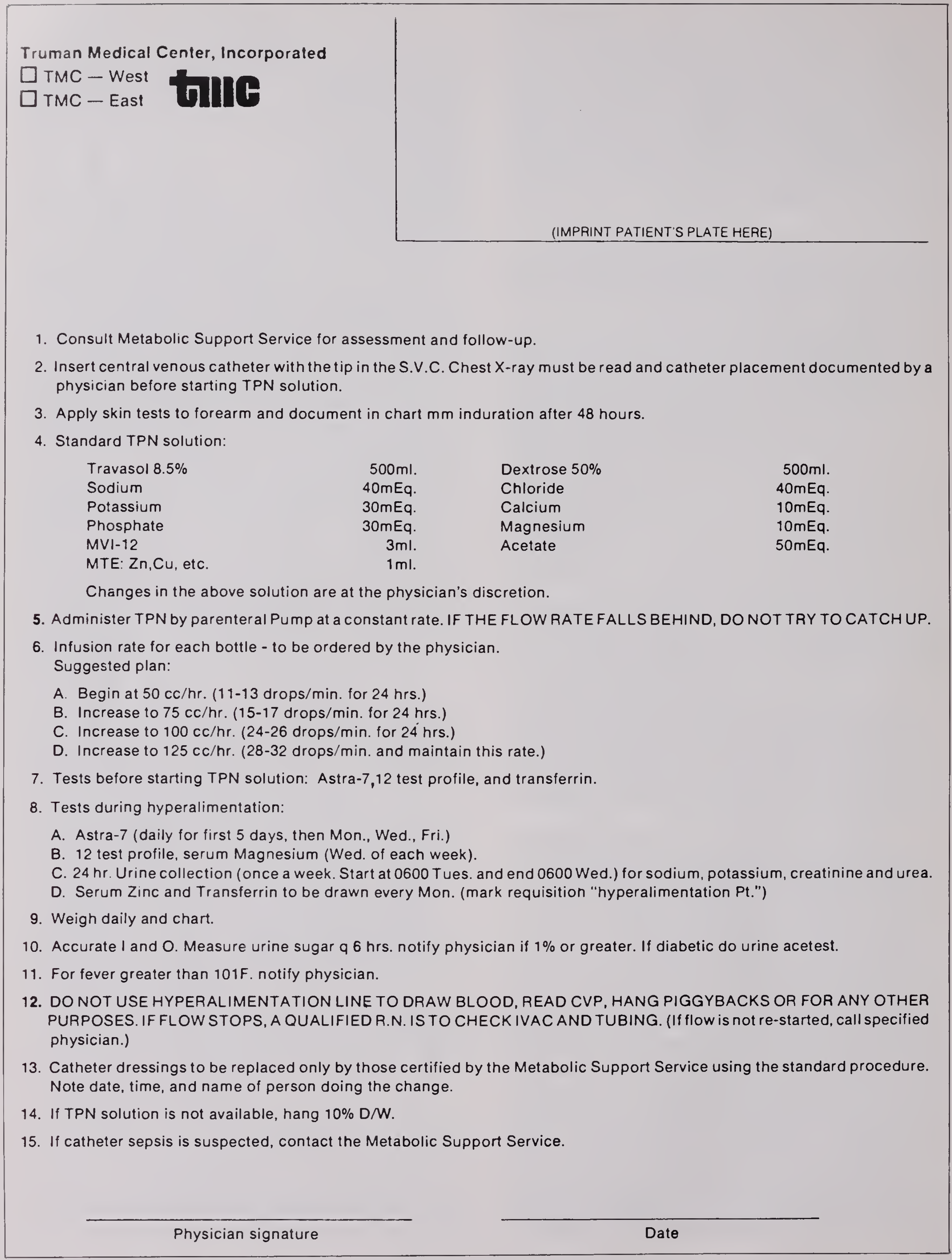
1. *Standard order forms* — The MSS started with a single page, standard order form for TPN. Since the first month of adjustment, all patients receiving TPN have been managed with this standard set of orders that is signed by the patient's physician. The single page, standard order form for enteral nutrition was developed and implemented after the first six months and is used by 98% of physicians ordering tube feedings. Both of these forms have recently been revised and updated (Figs. 1 & 2 on pages 638 & 639).
2. *Catheter sepsis rate* — Prior to the initiation of the hyperalimentation team in 1978, the rate of catheter sepsis was approximately 25% to 30% with only five to seven patients per month receiving TPN. From 1978 to 1980, the hyperalimentation team tried to change most of the catheter dressings. This resulted in a reduction of catheter sepsis to 10% to 15% even though many dressings were still not changed by a specially trained nurse.

   Since its inception, the MSS has required that all catheter dressings be managed by the MSS nurse or one of the other trained registered nurses and that accurate records of sepsis and/or superficial catheter site infections be kept. During this time, the catheter infection rate consistently has been 6% to 8% and includes both superficial catheter site infections and bacteremia in critically ill patients that may have come either from the TPN catheter or from another site.
3. *Consultations for nutritional assessment* — The MSS has shown a steady increase in the average number of consultations per month (Table 1). Since consultation is requested by a physician's written order, the increase in requests for consultations indicates that the presence and dependability of the MSS has gained wide acceptance by the attending physicians and house staff. In addition, a higher proportion of the consultations are requested earlier in the patient's hospital stay. This indicates that early in the patient's hospitalization, physicians are more frequently considering the problem of nutrition and seeking advice about the need for the timing of nutritional support for their patient.
4. *Providing nutrition education* — As a part of both the teaching hospital and the School of Medicine, the MSS has supplied nutrition education in several ways. First, the MSS dietitian speaks to the medicine service every two months at the start of each new rotation to remind the medical students, residents and attending staff of the importance of nutritional assessment and support for their patients and of the availability of the MSS. After communication on rounds with MSS personnel or MSS consultation, residents often request papers on current concepts in TPN or enteral feedings. Second, the MSS has established an elective month for medical students and residents, which is given about four to six times per year. Third, the MSS has taught a 12-hour course in nutrition that is required for all medical students. This unit of instruction includes a thorough and concise study guide, lectures, demonstrations and a final examination. Fourth, attending staff, residents and medical students have asked for a significantly increasing number of consultations for nutritional assessment and recommendations by the MSS (Table 1). Finally, after completing their training, several residents have written to the MSS for protocols and information about setting up a nutrition service, which indicates that these former residents have identified the MSS as a prime source of their nutrition education and practice.
5. *Providing optimum nutritional support and to keep accurate records* — If the first four goals

TABLE 1
AVERAGE NUMBER OF MSS PATIENTS PER MONTH

Average Per Month	*1980*	*1981*	*1982*	*1983*
No. of consults	6	10	15	19
No. of TPN patients	12	16	12	17
No. of enteral patients	18	17	23	32
Total No. of patients	30	33	35	49

The average number of patients per month who received consults, TPN or enteral nutrition from the MSS for each year or part of a year.



Truman Medical Center, Incorporated
☐ TMC — West
☐ TMC — East
tmc

(IMPRINT PATIENT'S PLATE HERE)

1. Consult Metabolic Support Service for assessment and follow-up.
2. Insert central venous catheter with the tip in the S.V.C. Chest X-ray must be read and catheter placement documented by a physician before starting TPN solution.
3. Apply skin tests to forearm and document in chart mm induration after 48 hours.
4. Standard TPN solution:

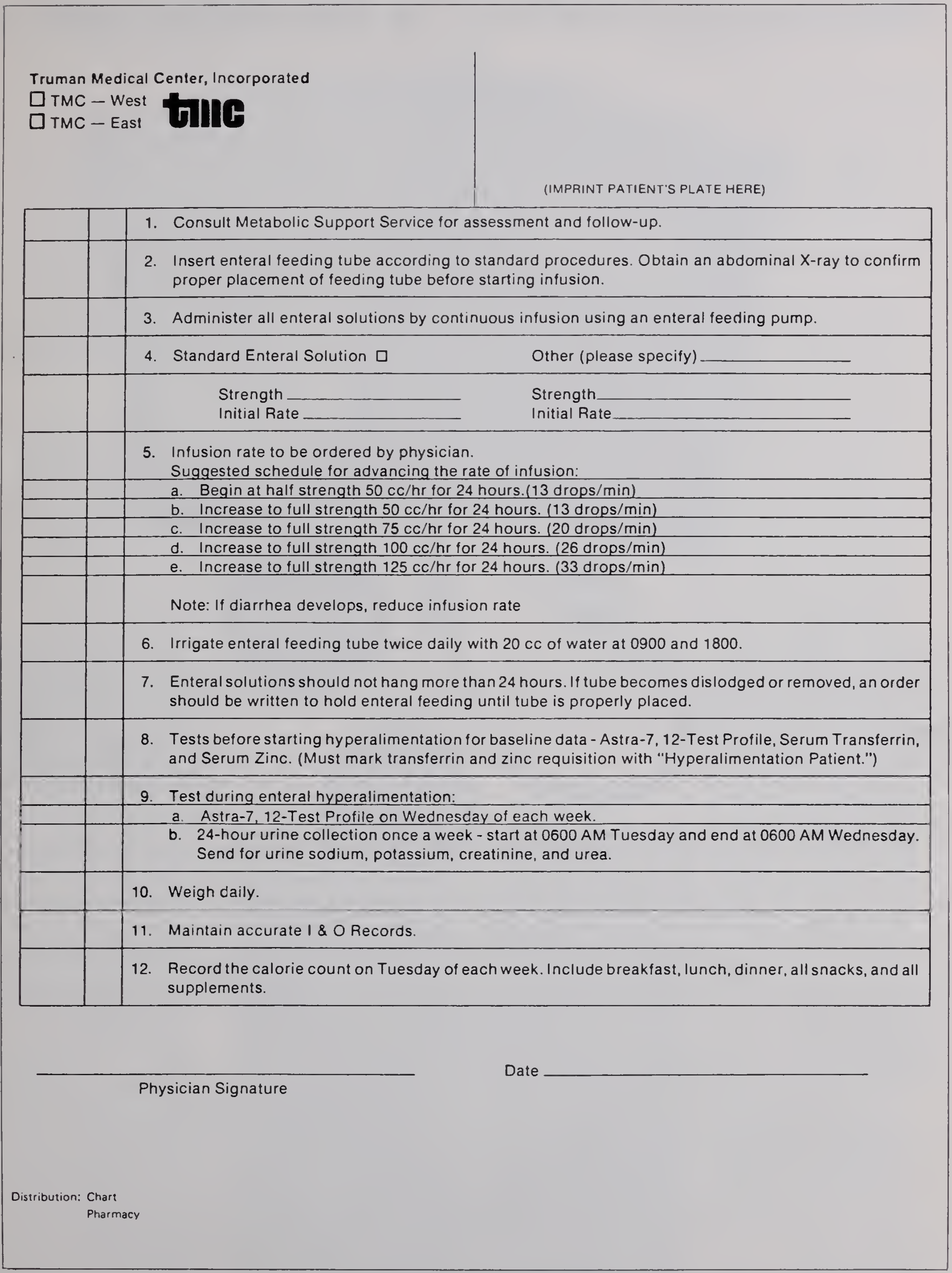
Travasol 8.5%	500ml.	Dextrose 50%	500ml.
Sodium	40mEq.	Chloride	40mEq.
Potassium	30mEq.	Calcium	10mEq.
Phosphate	30mEq.	Magnesium	10mEq.
MVI-12	3ml.	Acetate	50mEq.
MTE: Zn,Cu, etc.	1ml.		

Changes in the above solution are at the physician's discretion.

5. Administer TPN by parenteral Pump at a constant rate. IF THE FLOW RATE FALLS BEHIND, DO NOT TRY TO CATCH UP.
6. Infusion rate for each bottle - to be ordered by the physician.
   Suggested plan:
   A. Begin at 50 cc/hr. (11-13 drops/min. for 24 hrs.)
   B. Increase to 75 cc/hr. (15-17 drops/min. for 24 hrs.)
   C. Increase to 100 cc/hr. (24-26 drops/min. for 24 hrs.)
   D. Increase to 125 cc/hr. (28-32 drops/min. and maintain this rate.)
7. Tests before starting TPN solution: Astra-7, 12 test profile, and transferrin.
8. Tests during hyperalimentation:
   A. Astra-7 (daily for first 5 days, then Mon., Wed., Fri.)
   B. 12 test profile, serum Magnesium (Wed. of each week).
   C. 24 hr. Urine collection (once a week. Start at 0600 Tues. and end 0600 Wed.) for sodium, potassium, creatinine and urea.
   D. Serum Zinc and Transferrin to be drawn every Mon. (mark requisition "hyperalimentation Pt.")
9. Weigh daily and chart.
10. Accurate I and O. Measure urine sugar q 6 hrs. notify physician if 1% or greater. If diabetic do urine acetest.
11. For fever greater than 101F. notify physician.
12. DO NOT USE HYPERALIMENTATION LINE TO DRAW BLOOD, READ CVP, HANG PIGGYBACKS OR FOR ANY OTHER PURPOSES. IF FLOW STOPS, A QUALIFIED R.N. IS TO CHECK IVAC AND TUBING. (If flow is not re-started, call specified physician.)
13. Catheter dressings to be replaced only by those certified by the Metabolic Support Service using the standard procedure. Note date, time, and name of person doing the change.
14. If TPN solution is not available, hang 10% D/W.
15. If catheter sepsis is suspected, contact the Metabolic Support Service.

Physician signature ____________ Date ____________

Fig. 1 Total Parenteral Nutrition (TPN) Orders.



Truman Medical Center, Incorporated
☐ TMC — West
☐ TMC — East
tmc

(IMPRINT PATIENT'S PLATE HERE)

		1. Consult Metabolic Support Service for assessment and follow-up.
		2. Insert enteral feeding tube according to standard procedures. Obtain an abdominal X-ray to confirm proper placement of feeding tube before starting infusion.
		3. Administer all enteral solutions by continuous infusion using an enteral feeding pump.
		4. Standard Enteral Solution ☐ Other (please specify) ________
		Strength ________ Strength ________ Initial Rate ________ Initial Rate ________
		5. Infusion rate to be ordered by physician. Suggested schedule for advancing the rate of infusion:
		a. Begin at half strength 50 cc/hr for 24 hours.(13 drops/min)
		b. Increase to full strength 50 cc/hr for 24 hours. (13 drops/min)
		c. Increase to full strength 75 cc/hr for 24 hours. (20 drops/min)
		d. Increase to full strength 100 cc/hr for 24 hours. (26 drops/min)
		e. Increase to full strength 125 cc/hr for 24 hours. (33 drops/min)
		Note: If diarrhea develops, reduce infusion rate
		6. Irrigate enteral feeding tube twice daily with 20 cc of water at 0900 and 1800.
		7. Enteral solutions should not hang more than 24 hours. If tube becomes dislodged or removed, an order should be written to hold enteral feeding until tube is properly placed.
		8. Tests before starting hyperalimentation for baseline data - Astra-7, 12-Test Profile, Serum Transferrin, and Serum Zinc. (Must mark transferrin and zinc requisition with "Hyperalimentation Patient.")
		9. Test during enteral hyperalimentation:
		a. Astra-7, 12-Test Profile on Wednesday of each week.
		b. 24-hour urine collection once a week - start at 0600 AM Tuesday and end at 0600 AM Wednesday. Send for urine sodium, potassium, creatinine, and urea.
		10. Weigh daily.
		11. Maintain accurate I & O Records.
		12. Record the calorie count on Tuesday of each week. Include breakfast, lunch, dinner, all snacks, and all supplements.

________________ Date ________________
Physician Signature

Distribution: Chart
Pharmacy

Fig. 2 Enteral Nutrition Protocol.

TABLE 2
AVERAGE NUMBER OF MSS PATIENT DAYS PER MONTH

Average Per Month	*1980*	*1981*	*1982*	*1983*
Total parenteral nutrition				
No. of patient days	122	186	146	210
Enteral nutrition				
No. of patient days	192	136	226	364
Total No. patient days	314	322	372	574

The average number of patient days per month for TPN and enteral nutrition on the MSS for each year or part of a year.

were being met effectively, the expectation was that the MSS would be involved with more patients. The increase in the number of patients receiving nutritional support is recorded in Table 1. In comparing 1981 and 1982, the number of TPN patients decreased while the number of enteral patients increased. However, the total number of MSS patients increased from 33 to 35 per month between 1981 and 1982. The MSS activity during the first four months of 1983 when the number of patients averaged 49 per month, or 63% more than in 1980, documents that the MSS has significantly increased the number of patients receiving nutritional support.

The average number of patient days per month for TPN and enteral feedings is shown in Table 2. The total number of patient days per month for both kinds of nutritional support has increased 82%, from 314 to 547, since the formation of the MSS.

The MSS has a record of all patients seen in consultation as well as all patients receiving TPN or enteral feedings. The patients' records are reviewed on a regular basis and appropriate charges are made daily or weekly as indicated. Since the pharmacy supplies all TPN and enteral products and the MSS personnel monitor the patients a minimum of five days per week and compare their records with those of the pharmacy, all nutritional support patients are indentified and all services are documented.

6. *Eliminating waste and decreasing the number of similar products available* — Except in unusual circumstances, only one item for each category of parenteral and enteral products is stocked by the TMC pharmacy. The goal is to stock the best available product or its nearest substitute at the lowest price. If a new product is purchased, it must either be unique or must replace a product that is currently in use. During the past 30 months, no products managed by MSS have become outdated or wasted. The only exception to this point may occur when a product has been prepared for a patient and, for some reason, the patcint has been unable to receive the product.

Discussion

During the first 30 months of its existence, the MSS has either accomplished or made progress toward accomplishing its six major goals. Three of the original four team members involved in founding the MSS have left the service for personal reasons and have been replaced with equally dedicated and effective professionals. The MSS began as and remains a team effort with each one of the professional staff functioning as part of the team in order to provide optimal nutritional support for TMC patients.

Summary

This report describes the development of the first Metabolic Support Service (MSS) in Missouri that was organized as a hospital department. The MSS has produced protocols for both total parenteral nutrition (TPN) and enteral nutrition, which are used by attending physicians, residents and medical students. For TPN patients, the MSS has reduced the catheter sepsis rate from 25%-30% to 6%-8%. The MSS has provided nutrition education for both physicians and medical students through patient consultations, personal communication, research articles and a medical school course. After 30 months, the MSS had three times as many consultations and a 63% increase in patients receiving nutritional support per month. The average number of patient days of nutritional support per month has increased from 314 to 574 or 82%. The MSS has helped the hospital by improving the safety of nutritional support; eliminating product duplication and out-of-date losses; centralizing the ordering, formulation and distribution of nutritional support products; and providing accurate patient care charges. The MSS has provided significant benefits for the patient, the hospital, the medical staff and the medical students at this teaching hospital.

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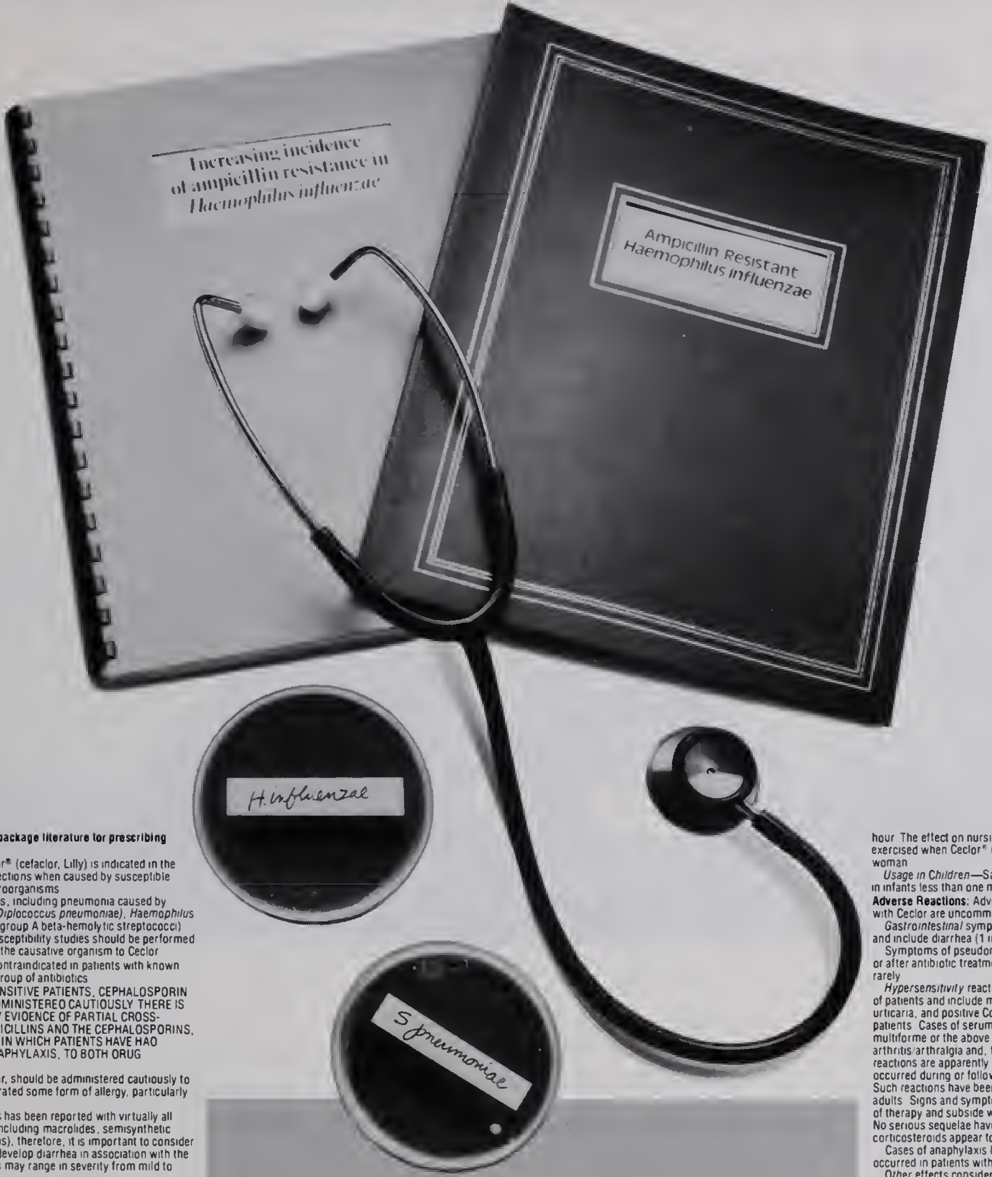
An added complication... in the treatment of bacterial bronchitis*


Increasing incidence of ampicillin resistance in Haemophilus influenzae
Ampicillin Resistant Haemophilus influenzae
H. influenzae
S pneumoniae

Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

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Pulvules®, 250 and 500 mg

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and *S pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by C. *difficile* Other causes of colitis should be ruled out

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e g , pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0.18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

(061782R)

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*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S pneumoniae* or *H influenzae* [8]

Note Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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President's Message

It won't be news to you but American physicians are citizens of the United States and subject to the laws thereof. You have already complied with the law in graduating from an approved medical school and becoming licensed by the state in which you practice. Most physicians don't like to recognize it, but the law is a determining factor in quite a number of aspects of professional activities. Sometimes the laws don't seem rational or directly related to quality medical care. Sometimes they pertain to availability of medical care by needy portions of the population.

Ronald A. Youmans, M.D.

In 1965, Congress responded to pressure, largely from the older age group, and passed the Medicare legislation. The previous Kerr-Mills Program had extended welfare programs with the federal government providing between 50% and 80% of the funds, the higher percentage going to poorer states. The beneficiaries, however, were limited to the aged poor.

The Medicare legislation was generous in regard to the hospital expenses, and Medicare Part A provides payments to the hospitals on a "cost" basis. Compensation to the physicians fell into the Part B of the plan. Medicaid was the third level of the same legislation providing health care services for poor persons less than 65 years of age. The Regional Medical Programs were enacted by the same Congress to determine if better distribution of health care could be provided.

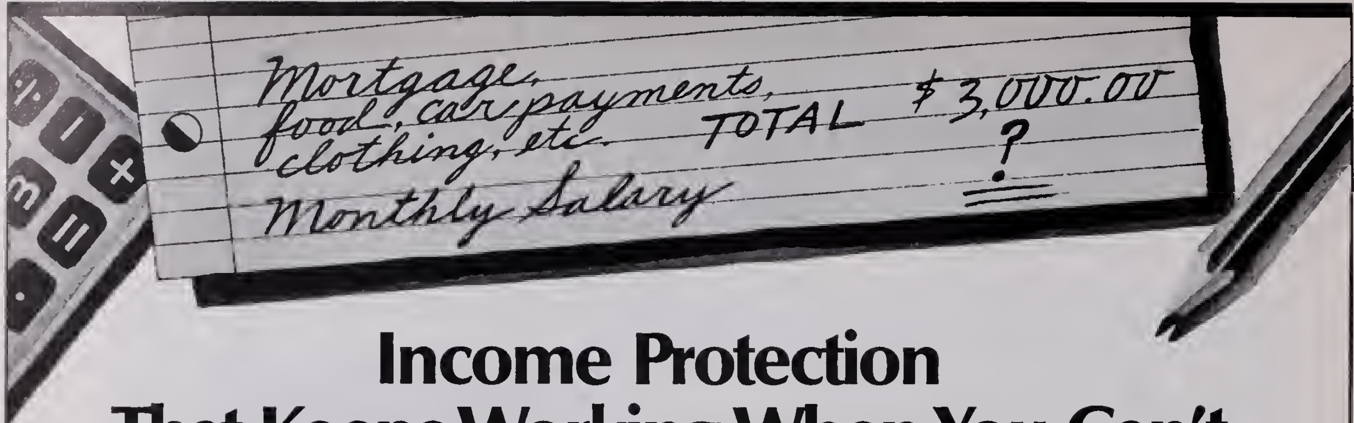
With the government volunteering to cover hospital costs, a new era of hospital expansion developed, providing the advanced technology and altering surgical suites to accommodate prosthetic hip surgery, special fluoroscopic rooms for cardiac catheterization, coronary angiography, and open heart surgery. Expensive computerized axial tomography units went to the radiology department. Special opthalmology instruments appeared. The legislation of Certificate of Need sometimes delayed such acquisitions; occasionally, the Regional Health Planning agency would delay approval.

One of the interesting objections the American Medical Association had to the original Medicare legislation was "the government can't afford it." That is becoming progressively more apparent.

In TEFRA legislation, the government is capping total expenditures without regard to convenience of the patients. Capping expenditures will limit much technical progress and slow the development and availability of the more expensive nuclear magnetic resonance scanning equipment. The NMR has a significant advantage in showing soft tissue differences not obscured by bone. No radiation or apparently harmful energy-source is involved.

The "money saving" program has included development of HMOs, PPOs and similar groups that continue to deprive the individual citizen (1) of his right to control his own money and expenditures and (2) to select his physician. With the TEFRA legislation, "Health Care Provider Groups" will negotiate with "Employment Groups" delimiting what health care facilities will be available to the employees as well as who will be providing the care. The patient and the physician are not consulted. Though the cost be high, one overlooks the fact that the bureaucratic reorganization adds an additional 25% to 30% to the health care costs without providing any direct assistance.

Recognizing that basic TEFRA premises probably will not be altered, the AMA is suggesting that a "relative value scale" be used with DRGs. Such a "relative value scale" would allow specified payment from government source and allow the physician or hospital to bill the balance of the charges to the patient or his insurance company. Such a program would neither literally "cap" progress nor the availability of appropriate care. It would still allow "competition" between physicians and institutions and would allow patients greater latitude in selecting their health care. If this concept of indemnification sounds reasonable, be certain to let your legislators know! Now!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MSMA Auxiliary

This fall, the MSMA Auxiliary president, president-elect and four vice-presidents have been busy traveling around the state presenting five regional workshops. We have been in Kansas City, Springfield, Cape Girardeau, St. Louis and Columbia.

The subjects covered at the workshops are listed below. "Brainstorming" was the last but very important feature as we "turned the tables" and received ideas for improving the workshops, their good points and, then, long and short-range plans to be considered.

Mrs. Donald Sanders
President

Legislation — Discussed the key contact program: "A Day at the Legislature" on March 14, 1984; contest among the county auxiliaries; and the type of contact that attracts the most attention. A local legislator spoke at the workshops.

Membership — Spoke on ways to approach membership, including new and old ways for recruiting, renewing and retaining members. Personal contact was deemed to be the most effective.

Health Projects — Talked about the Project Bank from which projects can be either entered or withdrawn. Many subject areas are listed and 1,000 projects are recorded. Of this number, about nine of our county auxiliaries entered about 30 projects. Among the many programs included are Drugs of Abuse, Smoking, Children and Youth, and Alcoholism. Under the umbrella of "Shape Up For Life" is a new emphasis on Child Abuse and Drunk Drivers.

Fund Raising — AMA-ERF and the Missouri State Medical Foundation (MSMF). Slides and ideas were presented. The Benefit Auction at the 1984 convention was stressed.

Other points touched were the People Bank program in which individuals can enter a record of their expertise in a given field at the AMA Auxiliary office and, thus, will be available as resource persons or speakers. Also, via the Professional Skills Bank, individual members can enter particular workshops and seminars attended and record their volunteer skills and activities. This will be placed on file and provide a resume when and if the individual enters or reenters the work field. Treasurer forms have caused concern and were discussed.

A registered national parliamentarian discussed one area of parliamentary procedure.

Brainstorming — This was a very important feature since it offered the members an opportunity to make suggestions. Many worthwhile criticisms as well as compliments on the workshops resulted. New ideas were offered for the Long Range Planning Committee.

Although this was an old idea (but new to us), it was trial and error all the way. We felt that we reached our goal this fall through the workshops, however, since we imparted a great deal of information by REACHING OUT to the local areas.

Special Book Review

"Hippocrates' Oaf" and *"Second Opinions of Hippocrates' Oaf"*

I, and a lot of others, try to do some reading during our post-breakfast morning ritual. Although what I am reading is not always satisfying, a good movement does usually bring a smile. However, one morning I picked up Dr. James T. Brown's book called (all books have to have some sort of title) *Hippocrates' Oaf*. Believe me, read a few chapters and your morning ritual will end in a belly laugh.

As the inside cover says (you must leave the paper cover on the book since the book itself has no writing on it), this book looks good on the coffee table. I also think it has a place on the bathroom stool since the rich orange color glows off the white porcelain.

There are 24 chapters all within 113 pages, so you cannot waste too much time if you read only a few of the chapters.

Just a mention of a few of the chapters such as (1) History-lectomy, (2) The Answering Cervix, (3) X-Rated Doctors, and there are 21 more.

I knew Jim Brown would do this to us sometime and now he has with *Hippocrates' Oaf*. But his damn ego wasn't fulfilled and he has to go and write one called *Second Opinions of Hippocrates' Oaf*.

If you want to grin, smile and laugh, and forget TEFRA and DRG, then let Jim Brown's little books do it to you. They look good in your waiting room if placed on top of the 1976 *Playboy Magazine*.

Remember, it's these kinds of books that you can put graffiti on and not feel you've hurt anything or anybody:

1. *Hippocrates' Oaf*
2. *Second Opinions of Hippocrates' Oaf*
3. God — will there be another one?

John N. Martin, M.D.
St. Joseph

(*Hippocrates' Oaf* ($7.00) and *Second Opinions of Hippocrates' Oaf* ($7.00) by James T. Brown, M.D. of Springfield can be ordered from the Berkeley Square Publishing Co., Box 1415, S.S.S., Springfield, MO 65805 — Ed.)

HLA Testing from Simple to Complex

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The Midwest Organ Bank Laboratories have changed procedures to provide a less expensive HLA-B27 test. The HLA-B27 test will only check for the presence or absence of the antigen B27. The report will be either B27 positive or B27 negative. This test will include reagents to eliminate confusion with crossreactive antigens that may be mistaken for HLA-B27. The additional antigens tested will include HLA-B7, Bw42, B40, Bw22 and Bw47. All reagents utilized for B27 testing have undergone extensive quality control to ensure potency and accuracy. The charge for this test will be $50.00. The results will be available within 24 hours of the receipt of the blood specimen and, in most cases, on the same day.

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The Organ Bank Laboratories will also continue to offer a disease association test. This test should be ordered for any HLA antigen other than HLA-B27. All antigens known to have a disease association are included in the disease association test. The result will provide a full HLA phenotype, listing the antigens found. The cost of this test will be $90.00.

The Midwest Organ Bank Laboratories typing trays are quality controlled constantly to assure accurate definition of HLA antigens. The Midwest Organ Bank Histocompatibility Laboratory is accredited by the American Association for Clinical Histocompatibility Testing and is licensed under the Clinical Laboratories Improvement Act of 1967 (CLIA).

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American Medical Association
Continuing Medical Education
AWARD

MSMA Members Receive Physician's Recognition Award

Sixty-eight MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the period of August, 1983.

The award is voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in Missouri Medicine as they are received from the AMA.

Bernard M. Abrams, Kansas City
Dilip Banerjee, Washington
Glenn A. Barr, Kansas City
Gary L. Bassett, Farmington
John M. Bedwinek, St. Louis
James C. Bobrow, Clayton
Raymond J. Caffrey, Independence
John G. Campbell, Kansas City
Nadindla C. Chennaiah, Farber
Gerhard W. Cibis, Kansas City
Walter E. Conner, Kansas City
John T. Critchlow, Mexico
Oblendo A. Cuento, St. Louis
Richard J. Dames, St. Louis
Tony M. Deeths, St. Louis
Mary M. Dick, St. Louis
Gustave Eisemann, Kansas City
William A. Emerson, St. Louis
Nelson Escobar, St. Joseph
David Feldman, St. Louis
Mark R. Feldman, St. Louis
Felix D. Fortin, Kansas City
Louis E. Gehm, Butler
Lawrence E. Giffen, Jefferson City
Man Mohan Gursahani, St. Louis
Arthur T. Hadley, Weston
K. Vasanth Hegde, St. Louis
Timothy L. Holekamp, Columbia
Sumner Holtz, St. Louis
Roger W. Hood, Kansas City
Judith P. Hurwitz, Kansas City
Shigemasa Ikeda, St. Louis
Earl W. Johnson, Cape Girardeau
Robert R. Jones, Nevada
Steven T. Joyce, Kansas City
Lynn H. Kindred, Kansas City
Ira Joe Kodner, St. Louis
Russell R. Kraeger, St. Louis
William G. Kraybill, Columbia
Susan W. Krechel, St. Louis
John J. Lang, St. Louis
John D. Lauer, St. Louis
Marvin J. Lopez, Columbia
Warren C. Lovinger, Nevada
John C. Lyskowski, Jefferson City
Elsie E. Meyers, Clayton
Robert A. Morantz, Kansas City
Leo T. Neu, Springfield
Richard B. Oglesby, St. Louis
Robert F. Owen, St. Louis
Leonard N. Piccione, Bridgeton
Stephen H. Radinsky, Creve Coeur
Kenneth L. Rall, Columbia
Abbiah N. Reddy, Poplar Bluff
Sarvotham K. Reddy, Raytown
Vodur C. Reddy, Joplin
Philip D. Reister, Kansas City
Arthur W. Robinson, Kansas City
Gerhard W. Schottman, Kansas City
Edward J. Shaw, St. Louis
James C. Sisk, Clayton
George J. Slahorek, Fort Leonard Wood
Wayne K. Tice, Lee's Summit
Charles M. Waggoner, Columbia
Melvin O. Walker, Springfield
Bruce J. Walz, St. Louis
Richard W. Yore, St. Louis
Rashid Zia, Ballwin

NEWS About CME Events

The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in Missouri Medicine. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

Menorah Medical Center
4949 Rockhill Rd., Kansas City 64110
(816) 276-8000
***Contact:* Erich W. Pollak, M.D., Director of Surgical Education, for the following:**

4:00 PM — Basic Sciences to Surgery Seminar
(Monday through Friday)
3:00 PM — Surgical Rounds
(Every Wednesday and Friday)
4:00 PM — Surgical Techniques Seminar
(Every second and fourth Wednesday)
4:45 PM — Morbidity and Mortality Conference
(Every fourth Wednesday)
8:00 AM — Morbidity and Mortality Conference
(Every second Saturday)
7:00 AM — Surgical Grand Rounds
(First and third Thursdays)

***Contact:* David S. Sneid, M.D., Director of Medical Education, for the following:**

9:00 AM — Medicine Staff Conference
(First, third and fourth Tuesdays)

University of Kansas
Office of Continuing Education
Rainbow at Olathe Blvd., Kansas City 66103
(913) 588-4488
***Contact:* Jan Johnston, Promotion Coordinator**

Oct. 25-26	Medicine and Religion: Superstition, Tradition and Ignorance (University of Kansas Medical Center)

B.A.S.H., Inc.
522 N. New Ballas Rd., Suite 206
St. Louis 63141
(314) 567-4080
***Contact:* Felix E. F. Larocca, M.D.**

(1984)	
Apr. 28	Second Bash Conference on Eating Disorders (Saint John's Mercy Medical Center)

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
***Contact:* Alta Bingham**

Nov. 3-5	Annual Fall Clinical Conference — Kansas City Southwest Clinical Society (Alameda Plaza Hotel)
Dec. 8-10	The Heart 1983 (Alameda Plaza Hotel)
(1984)	
Jan. 14-21	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Steamboat Springs, Colo.)
Feb. 11-18	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Puerto Vallarta, Mex.)
Feb. 24-25	The Long Weekend (Westin Crown Center Hotel)
Mar. 15-16	Critical Care (Alameda Plaza Hotel)
Mar. 17-24	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Breckenridge, Colo.)
Apr. 12-14	Update in Obstetrics-Gynecology (Alameda Plaza Hotel)
May 10-11	Surgical Problems — The Old and The New (Westin Crown Center Hotel)
May 18-19	The Long Weekend (Alameda Plaza Hotel)
June 2	Symposium on Physical Fitness (Hyatt Regency Hotel)
July 27-29	Internal Medicine Update — 1984 (Tan-Tar-A Resort, Osage Beach)

University of Missouri-Columbia School of Medicine
Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
***Contact:* William D. Bradshaw, M.D., Director**

Oct. 20-22	Fifth Annual Advances in Rheumatology Symposium (Columbia)
Nov. 4, 5	26th Annual Physicians Weekend (Columbia)
Nov. 10-11	Second Annual Missouri Genetic Disease Conference (Tan-Tar-A, Osage Beach)
Dec. 7-9	Advances in Trauma (Westin Crown Center, Kansas City)

(Continued on next page)

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3853
***Contact:* Loretta Giacoletto, Office of CME**

Oct. 26- Nov. 4	Clinical Allergy for the Practicing Physician (Paris and Montpellier, France)
Oct. 29	Biomedical Consequences of Nuclear Weapons and Nuclear War (Chase-Park Plaza Hotel)
Nov. 4	Current Topics in Diabetes (Breckenridge Inn-Frontenac)
Nov. 11-13	Tenth Annual Symposium on Geriatric Anesthesia (Marriott Inn-Airport)
Nov. 12	Upper Tumors and Vascular Dysfunction in the Extremity
Nov. 19	Premenstrual Syndrome
Nov. 28	New Developments in Infectious Diseases
Dec. 9-10	Low Back Pain
(1984)	
Jan. 8-13	Postgraduate Course in Obstetrics and Gynecology (Keystone, Colo.)
Feb. 9	St. Luke's Clinical Conference (St. Luke's West)
Feb. 11-18	WUMC Annual Clinical Conference (Kona, Hawaii)
Feb. 16-17	Techniques and Technology in Pulmonary Intensive Care
Feb. 25- Mar. 3	Care of the Aging Patient (Hawaiian Islands Cruise)
Mar. 5- May 21	Internal Medicine Review (The Jewish Hospital)
Mar. 16-17	Craniofacial Imaging
Apr. 26-27	Care of the Aging Patient

The Edward Mallinckrodt Institute of Radiology — Washington University School of Medicine
510 S. Kingshighway, St. Louis 63110
(314) 367-2131
***Contact:* Ronald G. Evens, M.D., Director**

Dec. 12	City-Wide Radiology Conference on "Advanced Imaging of the Brain and Spine"
(1984)	
Jan. 9	City-Wide Radiology Conference (St. Louis University)
Feb. 6	City-Wide Radiology Conference on "CT Chest"
Mar. 12	City-Wide Radiology Conference on "NMR"
Apr. 25	Leroy Sante Lecture (St. Louis University)
May 14	City-Wide Radiology Conference on "Angiography and Embolization of Pelvic and Extremity Trauma" (Mallinckrodt Institute, St. Louis)

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Before prescribing, see complete prescribing information. The following is a brief summary.

DESCRIPTION: Each sustained release capsule contains 12 mg of Chlorpheniramine Maleate, USP and 75 mg of Phenylpropanolamine Hydrochloride, USP in a base to provide prolonged activity.

INDICATIONS: For the treatment of the symptoms of seasonal and perennial allergic rhinitis and vasomotor rhinitis, including nasal obstruction (congestion).

CONTRAINDICATIONS: Hypersensitivity to any of the components, concurrent MAO inhibitor therapy, severe hypertension, bronchial asthma, coronary artery disease, stenosing peptic ulcer, pyloroduodenal or bladder neck obstruction. Do not use in children under 12 years.

Do not use this drug in patients with narrow-angle glaucoma, obstructive or paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. Do not use in nursing mothers.

Use in treating lower respiratory tract symptoms, including asthma, is contraindicated.

WARNINGS: Caution patients about activities requiring alertness (e.g., operating vehicles or machinery). Antihistamines are more likely to cause dizziness, sedation, and hypotension in elderly patients. Patients should also be warned about the possible additive effects of alcohol and other CNS depressants.

Usage in pregnancy: Safe use in pregnancy has not been established. Use only when the potential benefits have been weighed against the possible hazards to the mother and child. Note that an inhibitory effect on lactation may occur.

PRECAUTIONS: Use with caution in patients with a history of bronchial asthma, increased intraocular pressure, hyperthyroidism, cardiovascular disease, hypertension, hiatal hernia with reflux esophagitis, intestinal atony of the elderly or debilitated intestinal obstruction, myasthenia gravis, renal function impairment, and ulcerative colitis (severe).

Drug Interactions: MAO inhibitors, Alcohol or CNS depressants, especially anesthetics, barbiturates, and narcotics.

ADVERSE REACTIONS: Prolongs the response to nervous stimulation, potentiates the response to norepinephrine, and inhibits the response to tyramine.

Slight to moderate drowsiness occurs relatively infrequently with Chlorpheniramine Maleate. Other possible side effects common in antihistamines in general include perspiration, chills, dryness of mouth, nose and throat.

Cardiovascular System: Hypotension, headache, palpitations, tachycardia, extrasystoles.

Hematologic System: Hemolytic anemia, thrombocytopenia, agranulocytosis.

Nervous System: Sedation, dizziness, disturbed coordination, fatigue, confusion, restlessness, excitation, nervousness, tremor, irritability, insomnia, euphoria, paresthesias, blurred vision, diplopia, vertigo, tinnitus, acute labyrinthitis histeria, neuritis, convulsions.

Gastrointestinal System: Epigastric distress, anorexia, nausea, vomiting, diarrhea, constipation.

Genitourinary System: Urinary frequency, difficult urination, urinary retention, early menses.

Respiratory System: Thickening of bronchial secretions, tightness of chest and wheezing, nasal stuffiness.

DOSAGE AND ADMINISTRATION: Dosage should be individualized according to the needs and response of the patient. Adults: one capsule every 8 to 12 hours not to exceed 3 capsules daily. Not for use in children under 12 years of age.

OVERDOSAGE: Treatment of the signs and symptoms of overdosage is symptomatic and supportive. In the event of overdosage, emergency treatment should be started immediately.

Treatment: The patient should be induced to vomit, even if emesis has occured spontaneously. Vomiting by the administration of ipecac syrup is a preferred method. However, vomiting should not be induced in patients with impaired consciousness. Stimulants (analeptic agents) should not be used. Vasopressors may be used to treat hypotension. Short-acting barbiturates, diazepam or paraldehyde may be administered to control seizures. Hyperpyrexia, especially in children, may require treatment with tepid water sponge baths or a hypothermic blanket. Apnea is treated with ventilatory support.

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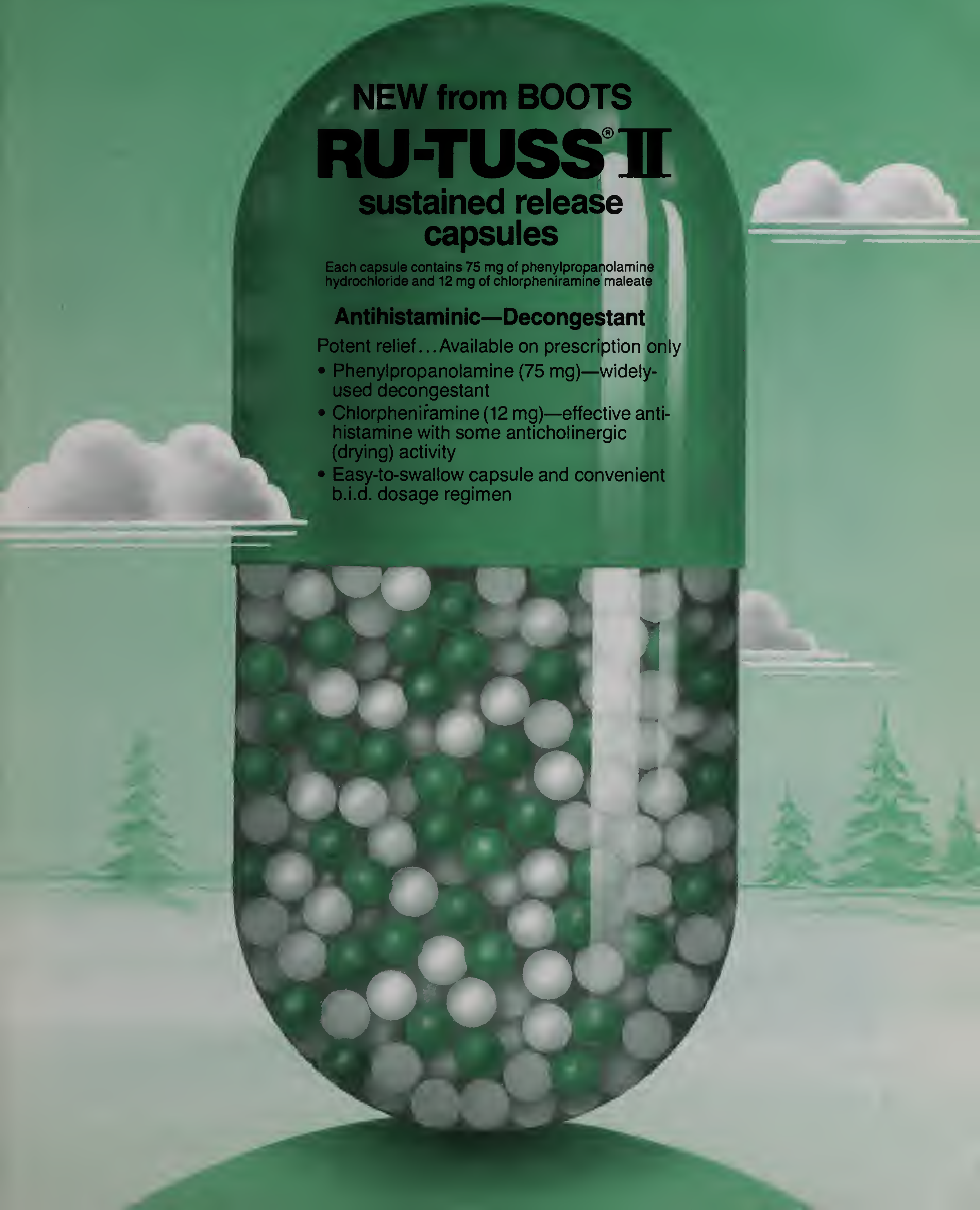

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NEWS From the Medical Schools

UNIVERSITY OF MISSOURI-KANSAS CITY

David M. Yourtee, Ph.D., associate professor of medicine and pharmacy, has received a Fulbright Senior Scholar Award to do research at the University of Lagos School of Medicine in Nigeria in 1984. Dr. Yourtee, a toxicologist, will work in collaboration with *Dr. Folabi Olumide*, a Nigerian surgeon, to initiate a long-term study of the sources of liver cancer in Africa.

Dr. Yourtee

This year's Summer Scholars Program was a success again with 26 students from Kansas City high schools participating and with five students in the Advanced Summer Scholars Program. The advanced program is a more intensive study that allows the participants to work directly in the clinics and to follow health care experts.

The Summer Scholars Program is a cooperative of Truman Medical Center, Western Missouri Area Health Education Center, Children's Mercy Hospital, and the UMKC Schools of Medicine, Dentistry and Pharmacy. *Willie McLemore*, M.D., Ph.D., assistant professor and former senior docent, is the chairman of the Summer Scholars Program.

Marilyn Sullivan, acting director of the Todd Wehr Library at the Medical College of Wisconsin in Milwaukee, is the new chief librarian of the UMKC Health Sciences Library. She began her new duties September 19.

Fayez S. Sayegh, Ph.D., professor of medicine and dentistry, was an invited speaker at the University of Damascus and the medical center of the Jordanian Armed Forces. Dr. Sayegh recently returned from the University of Jordan in Amman where he was a Fulbright Professor.

William R. Craig, Ph.D., clinical assistant professor of psychiatry and director of the adult program at Western Missouri Mental Health Center, has been appointed director of psychology and psychology training at the Center.

WASHINGTON UNIVERSITY

Pancreas cells prepared by diabetes researchers at Washington University were sent into space aboard the space shuttle Challenger during its August 30 mission. This project marks the first time that living cells have been sent aboard a space shuttle for biomedical experimentation.

Once the shuttle entered orbit, a solution containing the canine pancreas cells were injected into a McDonnell Douglas electrophoresis device mounted in the ship's cargo bay. Previous tests have led scientists to believe that the electrophoresis device will be able to separate cells that produce insulin from other pancreatic tissue.

The Washington University School of Medicine scientists involved in the project, *Drs. David Scharp and Paul Lacy*, are interested in obtaining pure samples of insulin-producing cells for their research. Unexplained malfunctioning of this pancreatic cell subtype is thought to cause insulin-dependent diabetes, a serious debilitating form of diabetes that afflicts 1.5 million Americans.

The ability to obtain large quantities of very pure beta cells would speed diabetes research and might bring beta-cell transplantation to human clinical trials sooner than would otherwise be possible, according to Drs. Scharp and Lacy.

Paul Lacy, M.D., Ph.D., is the Edward Mallinckrodt professor and head of pathology at The School of Medicine. He also is pathologist-in-chief at Barnes Hospital and is on the clinical staff at St. Louis Children's Hospital and The Jewish Hospital of St. Louis. David Scharp, M.D., is an associate professor of surgery and serves on the clinical staff of the Barnes and St. Louis Children's hospitals and the John Cochran Veterans Administration Medical Center in St. Louis.

A $5 million gift from the James S. McDonnell Foundation will provide for the establishment of a new Center for Cellular and Molecular Neurobiology at the School of Medicine, according to *Chancellor William H. Danforth*, M.D.

The Center for Cellular and Molecular Neurobiology will be the second neuroscience center at the School of Medicine founded through a gift from the James S. McDonnell Foundation. The Foundation's $5.5 million gift in 1980 established the McDonnell Center for Studies of Higher Brain Function.

The $5 million gift will be used over a five-year period to create new research emphasis combining several different disciplines. Among the programs to be established are a fellowship program in which promising students receive advanced neuroscience training, recruitment of new faculty, and the purchase of new research equipment.

The James S. McDonnell Foundation was established by the late aerospace pioneer who guided the McDonnell Douglas Corporation from its beginning in 1939 until his death in 1980. He served as a member of Washington University's Board of Trustees and as chairman from 1963 until 1966. He was also the first chairman of what is now known as the Washington University Medical Center.

Peter MacNeilage, Ph.D., an expert on speech production delivered the fourth S. Richard Silverman Lectureship in Hearing and Deafness on October 1 at the School of Medicine.

A professor of linguistics and psychology at the University of Texas, Dr. MacNeilage discussed the planning and production of speech.

The public lecture is sponsored by the Central Institute for the Deaf (CID), a member institution of the Washington University Medical Center, in honor of the director emeritus. Silverman, a 1969 recipient of the *Globe-Democrat* Humanities Award, headed CID from 1947-1972. In addition to the public lecture, seminar participants met for working group sessions and paper presentations.

Dr. MacNeilage has an international reputation as an authority on speech production, especially brain functions that control speech. He is director of the Phonetics Laboratory at the University of Texas, where he has taught undergraduate and graduate courses in phonetics, psycholinguistics and physiological psychology since 1969.

John Murray Fredrickson, M.D., has been appointed professor and head of the Department of Otolaryngology at the School of Medicine. Formerly professor of otolaryngology at the University of Toronto and director of its clinical sciences division, he succeeds the late Joseph H. Ogura, M.D.

Internationally recognized for his vestibular research, Dr. Fredrickson developed an implantable middle-ear hearing aid in 1973 and a voice box for laryngeal cancer patients in 1981. He received his medical degree from the University of British Columbia in 1957 and interned at Vancouver General Hospital. Dr. Fredrickson served a residency in pathology at Vancouver General Hospital, a residency in surgery and medicine at Shaughnessy Hospital in Vancouver, and a residency in otolaryngology at the University of Chicago.

ST. LOUIS UNIVERSITY

Lindbergh S. Sata, M.D., Samuel W. Fordyce Professor and Chairman of the Department of Psychiatry, has been elected to the Board of Trustees of the American Psychiatric Association as a trustee at large.

Dr. Sata is a fellow in the Psychiatric Association (APA). Since joining in 1960, he has served on numerous committees, including the chairmanship of a task force on Asian-American Psychiatrists from 1976-1980.

Dr. Sata

Dr. Sata is the author of many articles and chapters in textbooks and is a member of the Governor's Advisory Committee Council on Comprehensive Psychiatric Services for Missouri.

Jerome Cohen, M.D., associate professor, Department of Medicine, has been awarded a $407,579 Academic Career Award by the National Heart, Lung and Blood Institute of the Department of Health and Human Services.

The award will enable Dr. Cohen to design a program for teaching medical students and postgraduate trainees the principles and practice of preventive cardiology. It is one of the seven similar awards given nationwide.

Dr. Cohen

Dr. Cohen, who is currently serving as president of the St. Louis Heart Association, is a graduate of Washington University School of Medicine and obtained his undergraduate degree from John Hopkins University.

Michael D. Cole, Ph.D., assistant professor of biochemistry, has been awarded a three-year grant from the National Cancer Institute to continue his studies on molecular basis of cancer. Funding for the first year is $68,409.

Using mouse tumor cells, Dr. Cole has discovered that breakage of chromosomes activates cancer genes. In his study, he will research the myc cancer gene, a gene that in mouse tumor cells has been found to move and become reattached to a piece of chromosome 12, an antibody or disease-fighting gene.

UNIVERSITY OF MISSOURI-COLUMBIA

David G. Hall, III, M.D. has been appointed chairman of the Department of Obstetrics and Gynecology at the School of Medicine.

Dr. Hall

By unanimous opinion, the Obstetrics and Gynecology Department search committee named Dr. Hall as its preferred candidate, recommending that "he be recruited with vigor." "We are pleased to welcome Dr. Hall back to the chairmanship," said Dr. William Bradshaw, interim dean.

Dr. Hall, professor of obstetrics and gynecology, has been a member of the School of Medicine faculty for 25 years. He previously served as chairman of the department from 1962 to 1981.

Dr. Hall earned his M.D. degree at the University of Virginia in 1953. A Fellow in the American College of Obstetrics and Gynecology, the American College of Surgeons and the American Association of Obstetricians and Gynecologists, he has published numerous research papers in professional journals.

The Department of Anatomy hosted for the first time the Schmitt Brain-Endocrine Interaction Symposium, an international gathering of experts in this rapidly growing field.

Held at the University of Wurzburg School of Medicine in Wurzburg, West Germany on July 27-29, the symposium focused on neuropeptides involved with stress-related behavior. More than 150 researchers and clinicians from Europe, Japan and the United States participated.

Dr. David Scott, chairman of the Anatomy Department, and *Dr. Willis K. Paull, Jr.*, professor of anatomy, were co-organizers of the symposium sponsored by the Kilian and Carolyn Schmitt Foundation of the University of Rochester Medical Center in New York and the UMC School of Medicine.

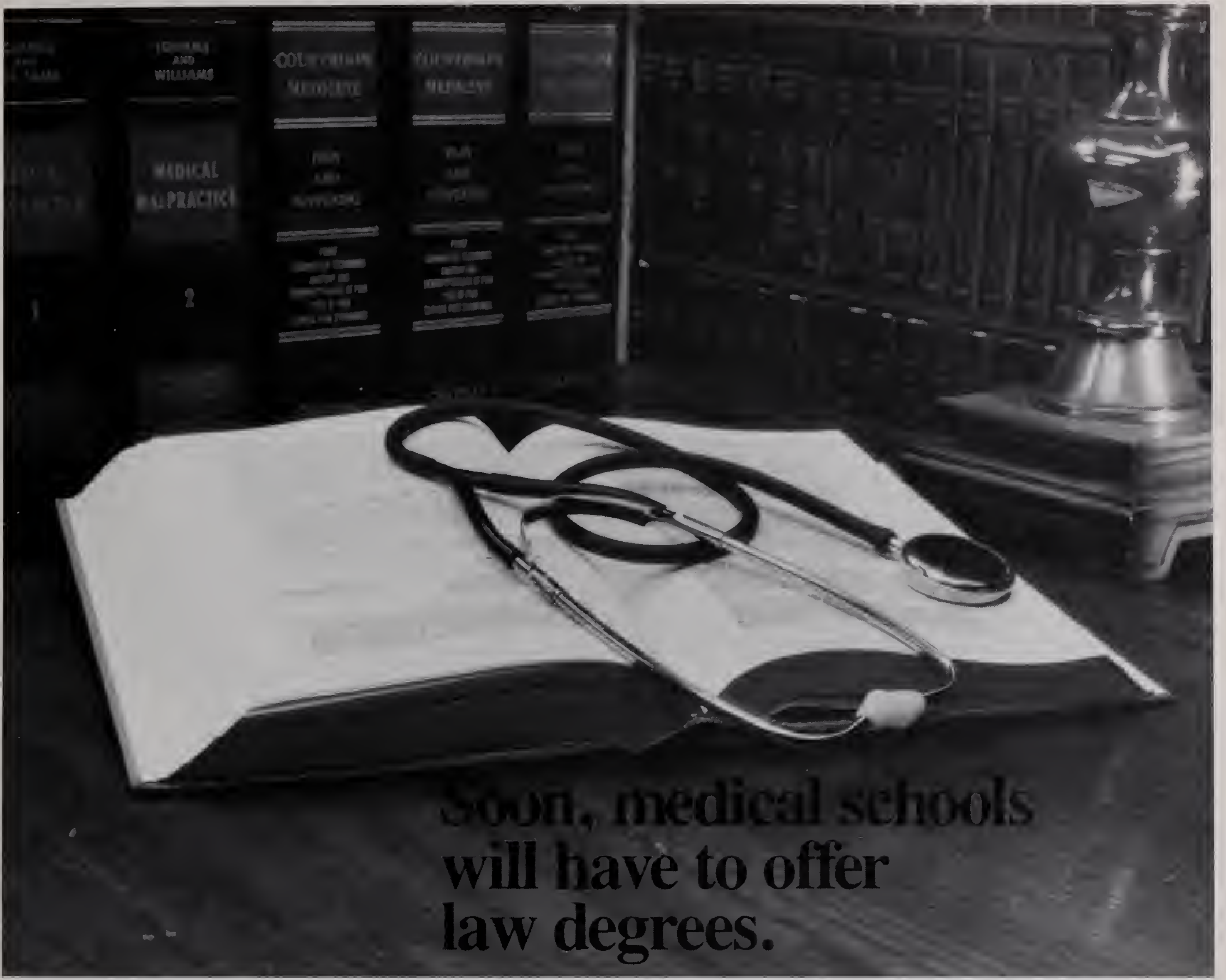
Dr. David Davis, professor and associate chairman of the department, presented a paper on "Perception of Cognitive Impairment Among Alcoholics." He also served as the U.S. representative to the Association's Psychopathology Committee to which he was reappointed for a five-year term. After the Congress, Dr. Davis visited the Royal College of Psychiatrists in London, England as a representative of the American Psychiatric Association and as a chairman of the North American Society of the Royal College of Psychiatrists.

Dr. James Chapel, professor of psychiatry and chief of the Child Psychiatry Section, presented a paper entitled "Do Preschool Hyperactive Children Outgrow It?" *Dr. Armando Favassa*, professor of psychiatry and chief of the General Psychiatry Section, presented his discussion of "Common Factors in Indigenous Folk-healing Groups" during a special session on cultural psychiatry.

Dr. Arshad Husain, associate professor of psychiatry, presented a paper on "Suicide in Children: Analyses of 167 Cases." *Dr. Joseph Lamberti*, associate professor of psychiatry, presented a paper on "Rapid Treatment Approach for Phobias."

Dedication of the new Cosmopolitan International/University of Missouri-Columbia Diabetes Center, which is adjacent to the Ophthalmology Clinic, is scheduled for Nov. 10, 1983. The center was built with funds raised by the Cosmopolitan International Foundation and will provide model patient care and professional education. It also will serve as a focal point for basic and applied research on diabetes.

Thomas Burns, M.D., professor of medicine, is director of the new center. Dedication ceremonies will be held in the School of Nursing Auditorium S-261 at 1:30 P.M. after the ribbon cutting at the nearby Cosmopolitan International/UMC Diabetes Center.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Introducing Our New MSMA Members

John D. Auner, M.D., 200 St. Mary St., P. O. Box 339, Pilot Knob 63663, has become a member of Mineral Area Medical Society. Dr. Auner is a native of St. Louis, received his preliminary education at Drury College and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in family practice.

Gerald N. Bart, M.D., 2066 Canakin Ct. #4, St. Louis 63146, has become a member of St. Louis Metropolitan Medical Society. Dr. Bart is a native of India, received his preliminary education at Loyola College and his M.D. degree at Kasturba Medical College in 1963. He specializes in otolaryngology.

Max H. Burgdorf, M.D., 12303 De Paul Dr., Bridgeton 63044, has become a member of St. Louis Metropolitan Medical Society. Dr. Burgdorf is a native of New Orleans, received his preliminary education at Washington University and his M.D. degree at Washington University in 1974. He specializes in pediatrics.

John V. Carlson, M.D., 620 E. Monroe, Mexico 65265, has become a member of Audrain Medical Society. Dr. Carlson is a native of Nebraska, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in pathology.

Raul Huet, M.D., 2512 W. 90th, Leawood, Kan. 66206, has become a member of Jackson County Medical Society. Dr. Huet is a native of Mexico, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1982. He specializes in internal medicine.

Rand E. Dankner, M.D., 1570 Woodlake Dr., Chesterfield 63017, has become a member of St. Louis Metropolitan Medical Society. Dr. Dankner is a native of St. Louis, received his preliminary education at the University of Pennsylvania and his M.D. degree at Baylor College in 1978. He specializes in internal medicine.

Charles D. Ettelson, M.D., Suite 17424-Barnes Hospital, St. Louis, has become a member of St. Louis Metropolitan Medical Society. Dr. Ettelson is a native of New Jersey, received his preliminary education at Oberlin College and his M.D. degree at Washington University in 1978. He specializes in plastic surgery.

Roger A. Francis, M.D., Lake of the Ozarks General Hospital, Osage Beach 65065, has become a member of Lake of the Ozarks Medical Society. Dr. Francis is a native of Sikeston, received his preliminary education at Southeast Missouri State University and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in diagnostic radiology.

Scott J. Frankel, M.D., 660 S. Euclid, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Frankel is a native of St. Louis, received his preliminary education at Grinnel College and his M.D. degree at Washington University in 1979. He specializes in internal medicine.

John T. Gallanis, M.D., 1325 S. Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Gallanis is a native of Illinois, received his preliminary education at the University of Illinois and his M.D. degree at St. Louis University in 1976. He specializes in internal medicine.

Siddhesh Gowda, M.D., 5535 Delmar, St. Louis 63112, has become a member of St. Louis Metropolitan Medical Society. Dr. Gowda is a native of India and received his M.D. degree at Bellary Medical College in 1970. He specializes in cardiology.

Ashfaq H. Hakim, M.D., 11115 New Halls Ferry Rd., Florissant 63033, has become a member of St. Louis Metropolitan Medical Society. Dr. Hakim is a native of India, received his preliminary education at M.B. College and his M.D. degree at R.N.T. Medical College in 1968. He specializes in internal medicine.

Karl J. Hasik, M.D., 2745 W. Clay, Suite K, St. Charles 63301, has become a member of St. Louis Metropolitan Medical Society. Dr. Hasik is a native of St. Louis, received his preliminary education and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in obstetrics and gynecology.

Roy A. Henry, M.D., 1211 S. Glenstone, Springfield 65804, has become a member of Greene County Medical Society. Dr. Henry is a native of Kansas, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in pediatrics.

Michael S. Herberg, M.D., 615 S. New Ballas Rd., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Herberg is a native of Vermont, received his preliminary education at the University of Vermont and his M.D. degree at the University of Vermont in 1979. He specializes in internal medicine.

Timothy A. Hull, M.D., 1000 Carondolet, Kansas City 64114, has become a member of Jackson County Medical Society. Dr. Hull is a native of Iowa, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1979. He specializes in anesthesiology.

Richard P. Jotte, M.D., 10300 St. Charles Rock Rd., St. Ann 63074, has become a member of St. Louis Metropolitan Medical Society. Dr. Jotte is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1980. He specializes in internal medicine.

Guy R. Kline, M.D., 20 Hughes Ford Rd., Sullivan 63080, has become a member of Franklin-Gasconade-Warren County Medical Society. Dr. Kline is a native of Illinois, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in family practice.

Thymios P. Lambrou, M.D., Highway 67 N., Hillsdale Plaza, Poplar Bluff 63901, has become a member of Butler-Wayne-Ripley-Carter County Medical Society. Dr. Lambrou is a native of Greece, received his preliminary education at National University of Athens and his M.D. degree at the University of Athens School of Medicine in 1967. He specializes in oncology.

Mark A. Ludwig, M.D., 1040 N. Mason, St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Ludwig is a native of St. Louis, received his preliminary education at Emory University and his M.D. degree at the University of Health Sciences /Chicago School of Medicine in 1976. He specializes in general surgery.

Steven D. Mellies, D.O., 35 Doctors' Park, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Mellies is a native of St. Louis, received his preliminary education at Westminster College and his D.O. degree at Kansas City College of Osteopathic Medicine in 1977. He specializes in neurology.

Helen E. B. Michael, M.D., 615 S. New Ballas Rd., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Michael is a native of Washington, D.C., received her preliminary education at Washington University and her M.D. degree at Washington University in 1977. She specializes in pathology.

John A. Michael, M.D., 129 Oakside La., Kirkwood 63122, has become a member of St. Louis Metropolitan Medical Society. Dr. Michael is a native of Oklahoma, received his preliminary education at the University of Kansas and his M.D. degree at Washington University in 1973. He specializes in ophthalmology.

Orrin A. Moore, M.D., 9150 E. 41st Terr., Kansas City 64133, has become a member of Jackson County Medical Society. Dr. Moore is a native of Guiana, received his preliminary education at the University of Maryland and his M.D. degree at Cornell University in 1976. He specializes in obstetrics and gynecology.

Harry A. Osaghae-Morgan, M.D., 2605 Alfred, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Osaghae-Morgan is a native of Nigeria, received his preliminary education at the University of Ibadan and his M.D. degree at the University of Ibadan in 1970. He specializes in urology.

Tamara L. Ostapowicz, M.D., 1515 Lafayette, St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Ostapowicz is a native of Maryland, received her preliminary education at St. Louis University and her M.D. degree at St. Louis University in 1978. She specializes in obstetrics and gynecology.

Jose R. Navato, M.D., 1505 W. Truman Rd., Independence 64050, has become a member of Jackson County Medical Society. Dr. Navato is a native of Manila, received his preliminary education at the University of the Philippines and his M.D. degree at the University of the Philippines in 1955. He specializes in psychiatry.

Karen L. Remley, M.D., 10004 Kennerly, St. Louis 63128, has become a member of St. Louis

Metropolitan Medical Society. Dr. Remley is a native of Nevada, received her baccalaureate and M.D. degree from the University of Missouri-Kansas City School of Medicine in 1980. She specializes in pediatrics.

Lloyd D. Richardson, M.D., 2316 E. Meyer Blvd., Kansas City 64132, has become a member of Jackson County Medical Society. Dr. Richardson is a native of Tennessee, received his preliminary education at Mississippi College and his M.D. degree at the University of Mississippi in 1973. He specializes in pathology.

Vinai Raksakulthai, M.D., 703 W. Main, Fredericktown 63645, has become a member of Mineral Area Medical Society. Dr. Raksakulthai is a native of Thailand, received his preliminary education at the Faculty of Medical Science and his M.D. degree at Chiengma Medical School in 1966. He specializes in obstetrics and gynecology.

Robert F. Sacha, D.O., 35 Doctors' Park, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Sacha is a native of Illinois, received his preliminary education at Purdue University and his D.O. degree at Chicago College of Osteopathic Medicine in 1975. He specializes in allergy-clinical immunology.

James H. Scheu, M.D., 1035 Bellevue Ave., Suite 205, St. Louis 63117, has become a member of St. Louis Metropolitan Medical Society. Dr. Scheu is a native of St. Louis, received his preliminary education at Southeast Missouri State College and his M.D. degree at Tulane University in 1976. He specializes in plastic surgery.

Robert E. Stephenson, M.D., Suite 340, 2928 Main, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Stephenson is a native of Utah, received his preliminary education at Brigham Young University and his M.D. degree at the University of Kansas in 1978. He specializes in diagnostic radiology.

Maurice J. Whalen, M.D., Missouri Baptist Hospital, 3015 N. Ballas Rd., St. Louis 63131, has become a member of St. Louis Metropolitan Medical Society. Dr. Whalen is a native of Ogdensburg, N.Y., received his preliminary education at Johns Hopkins University and his M.D. degree at State University of New York in 1976. He specializes in internal medicine and ophthalmology.

Joseph P. Wood, M.D., 679 Waterford Ridge, Baldwin 63011, has become a member of St. Louis Metropolitan Medical Society. Dr. Wood is a native of St. Louis, received his preliminary education at Southern Illinois University and his M.D. degree at the University of Illinois in 1980. He specializes in internal medicine.

New Student Members

University of Missouri—Columbia

Margaret A. Alspaugh
Kimberly A. Alumbaugh
Joseph A. Beckmann
Denise Bennett
Jimmy D. Bowen
Mark S. Box
Charles A. Brooks
Karen S. Brown
James E. Bryan
Michael Burks
Damon C. Clines
Curt Coonce
E. Thomas Cullom, III
Jacqueline K. daSilva
Steven Daniels
Steven Daugherty
Roger Denney
Steven H. Dewey
Angela Difulvio
John B. Draper
Melanie Eden
Roy J. Elfrink
Dennis Eneanya
Chris Felling
Michelle M. Ferrari
Charles R. Fisher
Alan B. Fleischer, Jr.
Karen M. Gehrs
Jeffrey S. Glaser
Kendall Graven
Janet Hader
Jeanne M. Hartmann
Linda A. Harrison
Mark Hartley
Jonathan R. Hayes
Jogi A. Herrera
Andrew J. Holman
Donna Holzum
Susan E. Horowitz
John Hubbard
Luellen Hull

In Memoriam

James O. Smith, M.D., Medical Building, Hospital Dr., Clinton 64735; graduate of St. Louis University School of Medicine, 1932; member of St. Louis Metropolitan Medical Society; aged 81; died July 25, 1983.

Garnet C. Lyttle, M.D., 665 S. Skinker Blvd., St. Louis 63105; graduate of St. Louis University School of Medicine, 1907; member of St. Louis Metropolitan Medical Society; aged 98; died Aug. 4, 1983.

James K. Ritterbusch, M.D., State Hospital #1, Fulton 65251; graduate of St. Louis University School of Medicine, 1951; member of Callaway County Medical Society; aged 61; died Aug. 7, 1983.

Claude H. Zwart, M.D., 4335 W. Pine #130, St. Louis 63108; graduate of Washington University School of Medicine, 1928; member of St. Louis Metropolitan Medical Society; aged 82; died Aug. 18, 1983.

Charles G. Obermeyer, M.D., 3957 Holly Hills Blvd., St. Louis 63116; graduate of Washington University School of Medicine, 1940; member of St. Louis Metropolitan Medical Society; aged 69; died Aug. 24, 1983.

Arthur L. Hansen, M.D., 225 W. Main, Butler 64730; graduate of the University of Iowa College of Medicine, 1928; member of West Central County Medical Society; aged 82; died Aug. 26, 1983.

Justin L. Mooney, M.D., 6740 W. 52nd Place, Shawnee Mission, Kan. 66202; graduate of the University of Michigan School of Medicine, 1924; member of Jackson County Medical Society; aged 82; died Aug. 27, 1983.

Arthur B. Lissner, M.D., Lake St. Louis; graduate of Jefferson Medical College of Thomas Jefferson University, 1955; member of St. Louis Metropolitan Medical Society; aged 53; died Sept. 6, 1983.

Walter A. Younge, M.D., 4635 Dr. Martin Luther King Dr., St. Louis 63113; graduate of Meharry Medical College, 1925; member of St. Louis Metropolitan Medical Society; aged 84; died Sept. 6, 1983.

Paul A. Brenner, M.D., 108 W. Washington, Owensville 65066; graduate of Washington University School of Medicine, 1937; member of Franklin-Gasconade-Warren Medical Society; aged 73; died Sept. 8, 1983.

New Student Members *(Continued)*

Mark Jackson
Denise A. Johnson
Lawrence Kasper
George M. Kichura
Matthew Lewis
Tim Link
Kevin G. Mode
James P. Mannion
Thomas T. Mydler
Kenneth W. Neu
Samuel Okoye
Benedict F. Painter
Brett A. Prywitch
David B. Reedy
Hena Reichlin
Carin Reust
Diane C. Roden
Ralph A. Schmitz
Peter E. Shopiso
Don Stallard
Chris Stanley
William H. Stark
Jeffrey R. Tedrow
Raghv P. Terkonda
Michael F. Thomure
Ozuru Ukoha
Mark Vajaranant
Nancy Valente
Julio D. Vallette, Jr.
Greg Vandeven
Scott A. Wade
Nancy Walker
Jeffrey A. Wells
Gerald Wilmes
Jennifer Wright
Sandra Zinn

University of Missouri—Kansas City

Shalina Gupta
John C. Moad
Andrew Zimmerman
I. Ray Kirk, III

LETTERS to the EDITOR

To The Editor:

Thank you very much for your kind assistance in lending me money during my medical school training. I would like to retire that loan and hope others can benefit from the money even as I have (from the Missouri State Medical Foundation).

Your generosity is much appreciated. I am presently practicing in Berwyn, Il. as a gastroenterologist/internist.

I hold very fond memories of Missouri and enjoy returning home to my folks in St. Louis three or four times a year.

Thank you again.

Sincerely,
Allen C. Beruthal, M.D.
Berwyn, Il.

To The Editor:

I read with interest your item in the June, 1983, issue of Missouri Medicine, concerning the teaching, or the lack of it, of psychosomatic medicine in the average modern day medical school.

When I was a senior student at the University of Kansas Medical School, my class had the privilege of having as a teacher Don Carlos Peete, M.D. Dr. Peete taught a "noon clinic" several days a week for, I believe, one semester. I recall that Dr. Peete commented early in the semester that most of us would not be very interested in his course but that we would wish that we had paid better attention after we entered private practice. Many of the students used that time to catch a nap or write letters home. Only a few of us listened to what Dr. Peete had to say. Your editorial, of course, bears out his comments of 30 years ago.

The point of my note is to point out that even when medical schools do teach psychosomatic medicine, many students tend to ignore it because it is not totally "organic medicine."

Sincerely,
Robert M. Hazen, M.D.
Kansas City

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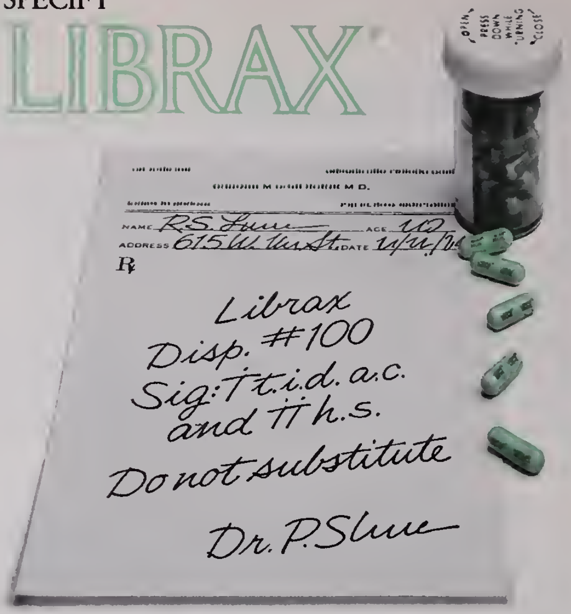

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"Possibly" effective: as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.
Final classification of the less-than-effective indications requires further investigation.

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium® (chlordiazepoxide HCl/Roche) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

Usage in Pregnancy: **Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.**

As with all anticholinergics, inhibition of lactation may occur.
Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established.
Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction; changes in EEG patterns may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome. *Oral forms* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures; tetanus; anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

> **_Usage in Pregnancy:_ Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE *To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used I.V.: inject slowly, taking at least one minute for each 5 mg (1 ml) given; do not use small veins,* i.e., *dorsum of hand or wrist; use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Injectable Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of diazepam, *i.e.*, phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE: Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia.

In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL *Adults:* Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche) tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease capsules (15 to 30 mg) daily. Acute alcohol withdrawal—tablets, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 capsules (30 mg) the first 24 hours, then 1 capsule (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—tablets, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily. Adjunctively in convulsive disorders—tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily.

Geriatric or debilitated patients: Tablets—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children: Tablets—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose (not for use in children under 6 months).

INJECTABLE: Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.)

For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., *dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children *administer I.V. slowly*; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg adult dose administered slowly, repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. Infants (over 30 days) and children (under 5 years), 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). Children 5 years plus, 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levarterenol or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL. Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules—15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

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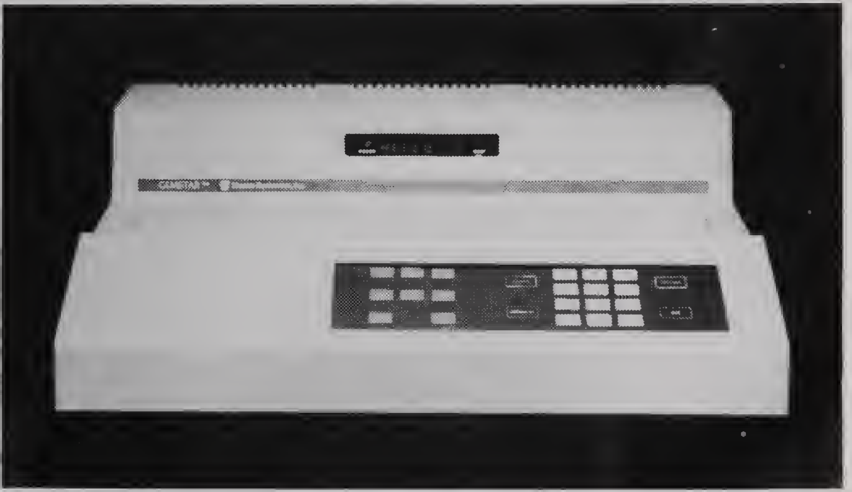

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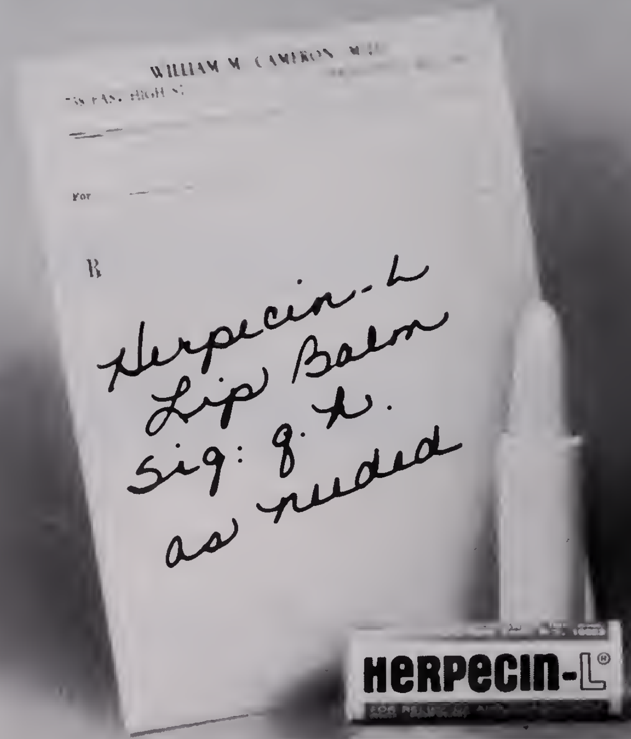

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in Brief

A summary of AMA, medical & health news

American Medical Association/535 North Dearborn Street/Chicago, Illinois 60610/Phone (312) 527-1500/TWX 910-221-0300

MEDICAL SOCIETY participation in health care coalitions has increased 85% in the last year. In May, 1982, the AMA counted 61 state and county medical societies involved in coalitions. In a recently published 1983 survey, 113 medical societies indicated that they are participating. The new *AMA Directory of Medical Societies Participating in Health Care Coalitions* is available from the Department of Health Care Coalitions, AMA Headquarters.

PATIENT MEDICATION Instructions have received a positive evaluation from physicians who have ordered them. In an opinion poll commissioned by the AMA, 86% of the physicians who have used PMIs reported satisfaction with the AMA product. The survey found that 70% of physicians believe PMIs increase patient compliance, and 71% believe they increase patient satisfaction with the visit. Nearly half said PMIs would decrease their risk of malpractice claims. The survey included 662 physicians chosen at random from a population of physicians likely to prescribe drugs covered by 40 different PMI sheets and 352 physicians who had ordered PMIs.

MEMBERSHIP RECRUITMENT programs have increased steadily, according to an AMA survey of state medical societies. In 1979, 67% of the responding state associations were actively recruiting new members. In 1980, the figure was 77%. In 1982, it had risen to 90%. In 1980, 53% of the state associations had special membership retention programs. In 1982, 76% of the associations had such programs.

A BILL TO PROHIBIT the use of federal funds for abortions was opposed by the AMA. The bill (HR 618) would deny abortions to those served by the Department of Defense, Indian Health Service, Medicaid, CHAMPUS or the Federal Employees Health Benefits Plan. Withholding food or treatment from handicapped infants also would be prohibited under the bill. Decisions about the medical treatment of a newborn should be made by the parents following consultation with their physician, the AMA said.

AMA'S CORPORATE Visitation Program will continue this fall when officers and senior staff discuss health care issues with top management at Litton Industries, Corning Glass Works, Armstrong World Industries, and LTV Corp. From 1978-1980, AMA representatives visited nearly 100 of the Fortune 500 companies. In 1980-1982, the Association concentrated on encouraging local medical societies to initiate corporate visits of their own.

THE AMA'S Competition Action Plan will provide physicians with information on practice opportunities as well as on financial resources for organizing a practice. A new Department of Physician Practice Services will collect information on projects undertaken by state medical societies and national medical specialty societies and transmit the material to the rest of the Federation. The department will serve as a clearinghouse for information on practice management programs, negotiation services, legal or financial assistance, placement services, consulting work, and assistance with advertising or other general marketing programs.

"**PHYSICIAN FEES** Under Medicare," an AMA brochure prepared by the Council on Medical Service, answers some of the most frequently asked questions about Medicare's physician fee profiles and reimbursement levels. Write to the Department of Health Care Financing and Organization, AMA Headquarters.

FUNDING FOR MEDICARE and Medicaid tops a list of public policy issues ranked in order of importance by 133 health-related organizations, federal agencies and congressional committees. National health insurance evoked the second highest level of interest. The next ten issues are health planning, preventive care, Medicare and Medicaid reimbursement for health personnel, biomedical research, National Institutes of Health funding, hospital cost containment, health education, health maintenance organizations, physician training, and professional standards review boards.

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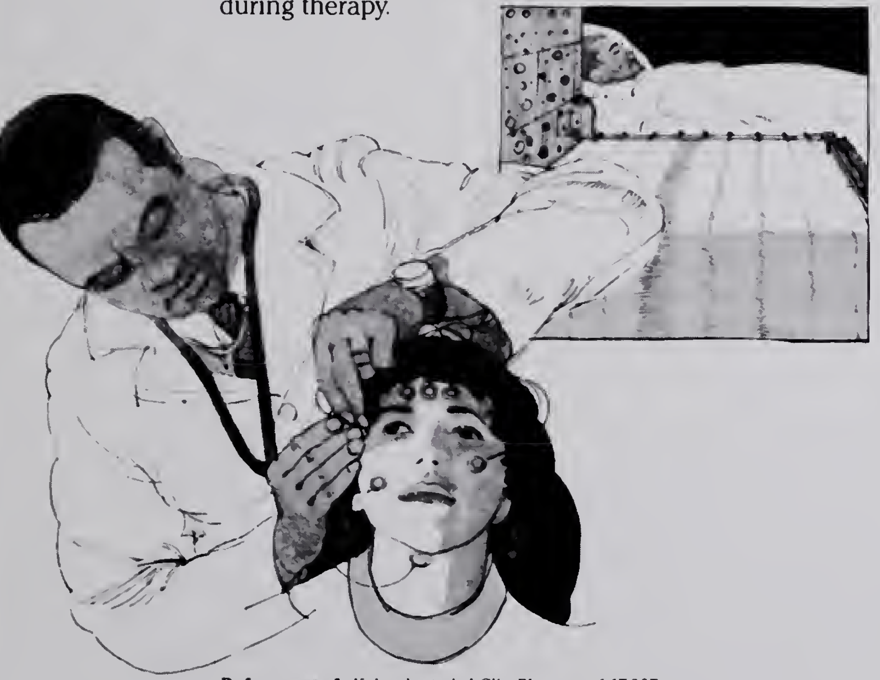

References: 1. Kales A *et al: J Clin Pharmacol 17*:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **3.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **4.** Kales A *et al: JAMA 241*:1692-1695, Apr 20, 1979. **5.** Kales A, Scharf MB, Kales JD: *Science 201*:1039-1041, Sep 15, 1978. **6.** Kales A *et al: Clin Pharmacol Ther 19*:576-583, May 1976. **7.** Kales A, Kales JD: *Pharmacol Physicians 4*:1-6, Sep 1970. **8.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **9.** Dement WC *et al: Behav Med 5*:25-31, Oct 1978. **10.** Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **11.** Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. **12.** Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. **13.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

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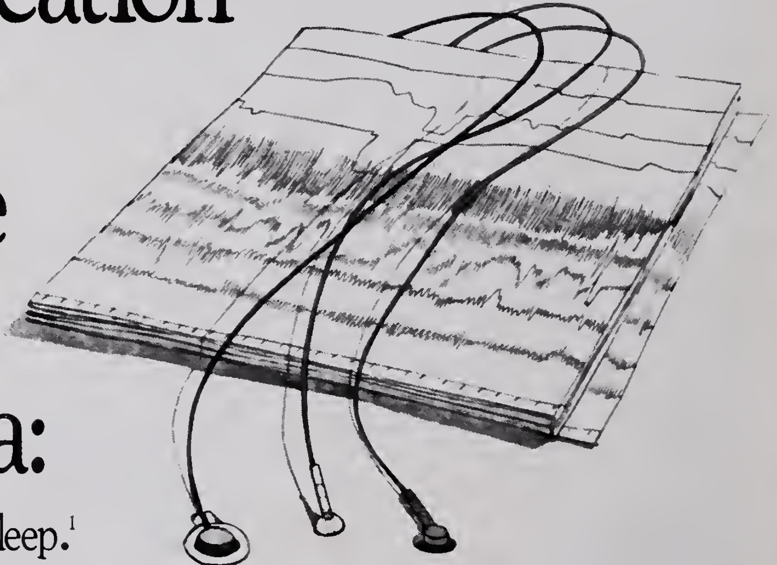

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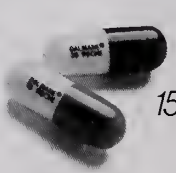

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Missouri Medicine

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Editor's Corner

Missouri State Medical Association

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PROGRESS NOTES

missouri state medical association

NOVEMBER 1983

Association Opposes Recommendation

In a letter to William Taylor, chairman of the Missouri Mental Health Commission, MSMA President Ronald A. Youmans, M.D. expressed the Association's dissatisfaction with a Missouri Legislative Committee's recommendation which would, in effect, discourage the employment of physicians as superintendents of mental health centers and hospitals.

Calling the recommendation "unfair," Dr. Youmans went on to write that, "many physicians who perform medical duties within mental health facilities are also very capable administrators. To arbitrarily exclude such a welath of expertise from service to the mentally ill of Missouri is certainly a disservice to all concerned.

"We believe," Dr. Youmans continued, "that the mentally ill of our State are accorded the best possible care and protection when a physician with administrative skills agrees to serve as a superintendent."

Drug Schedule Amendments Are Proposed

The Missouri Division of Health has proposed an amendment that would delete certain narcotic drugs containing non-narcotic active ingredients, such as cough syrups with codeine, from the Schedule V list and add them to the Schedule IV list.

The proposed amendment was published in the Oct. 3, 1983 *Missouri Register.*

The purpose of the amendment is to curtail the abuse of these drugs by requiring a prescription for the drug from a licensed practitioner.

Key Contacts at Work

MSMA Fights Freeze on Medicare Payments

MSMA "Key Contacts" were recently requested to contact U.S. Rep. Richard Gephardt (D-St. Louis) regarding proposed changes in Medicare which will come before the full U.S. House Ways and Means Committee. Rep. Gephardt is a member of the Committee.

A House Ways and Means health subcommittee has proposed a freeze on Medicare payments for physicians services provided to hospital inpatients and a requirement that physicians accept Medicare assignment for all services provided to hospital inpatients. The subcommittee proposal would roll back Medicare's prevailing charge limits effective Jan. 1, 1984, to those in effect before July 1, 1983, and hold them at that level until July 1, 1984.

In initial Committee action in late October, Committee members refused to endorse either of these concepts. However, Committee Chairman Dan Rostenkowski (D-Illinois) has indicated that he intends to offer the proposal to the full House at a later date.

To prevent physicians from making up the difference by refusing Medicare assignment and charging the patient more, the proposal would require that the physician accept the assignment for all services to Medicare inpatients. If the physician did not accept assignment, Medicare would pay neither the physician nor the patient.

MSMA "Key Contacts" expressed concern to Rep. Gephardt that both the "freeze" and the mandated acceptance of Medicare assignment could result in reduced access to medical care for beneficiaries.

They also raised several demanding questions including: Will some physicians withdraw from the program due to these proposals? Will Medigap Insurance pay for part or all of a patient's bill? If the insurance companies do not have to pay anything, this is certainly a windfall for the companies.

MSMA "Key Contacts" are deeply concerned that these proposals have not been thoroughly researched for their possible impact on access to care or for the real savings which might result.

Hefty Increases Announced

Medicare Premium Rates to Rise

Beginning Jan. 1, 1984, there will be increases in both the monthly Medicare hospital insurance premium for the uninsured aged and in the monthly Medicare Supplementary Medical Insurance (SMI) premium for the aged (age 65 and older) and the disabled (under age 65).

The Health Care Financing Administration announced the increases in the Sept. 30, 1983 *Federal Register.*

The monthly rate will increase 19.7 percent, from $12.20 to $14.60, for the Medicare SMI. The monthly rate for the Medicare hospital insurance premium for the uninsured aged will jump 37 percent, from $113.00 to $155.00.

A previously announced increase in these rates that was to become effective July 1, 1983 was rescinded in the June 10, 1983 *Federal Register.*

Would You Like Dividends on Your Insurance?

Doctors now have an opportunity to reduce their expenses for Workers' Compensation under a program recently approved by the Missouri State Medical Association.

The program provides dividends based on claim experience for employers who are definitely interested in employee safety and in earning a good safety record.

Results vary according to the yearly claim costs for those insured in this business class. Premium is returned as dividends when claim expenses are low for those participating.

Where this program has been in effect for doctors in other states, dividends of 30 percent per year or more often have been paid.

The service is provided by Casulty Reciprocal Exchange, a member of the Dodson Insurance Group, 92nd Street and State Line, Kansas City, Missouri 64114.

Medical Malpractice Seminar Held

MOMEDICO and the Jackson County Medical Society jointly presented a malpractice seminar on November 10 in Kansas City. The seminar, "Practice Without 'Mal' ", was designed to help physicians, residents and medical students become aware of problem areas that give rise to claims in medical malpractice.

The program included segments on informed consent, record-keeping, court summons, recent court cases, doctor-patient rapport, and what a plantiff's attorney looks for in a case.

Speakers and panelists included physicians, attorneys and insurance agents from Kansas and Missouri.

The seminar, accredited for six credit hours in Category I of the AMA Physician Recognition Award, was presented in cooperation with the Missouri State Medical Association, the Kansas Medical Society and the University of Missouri-Kansas City School of Medicine/Kansas City Southwest Clinical Society.

Over-the-Counter Products

20 New PMIs Available

Twenty new Patient Medication Information (PMI) sheets are now available through the AMA, bringing the total number of PMIs to 60.

For the first time, the AMA is issuing PMIs for over-the-counter pharmaceutical products other than insulin. These products include: antihistamines that are widely used in non-prescription preparations for motion sickness, allergies and insomnia, and bronchodilator aerosols that are used in both prescription and OTC products for asthma, aspirin, and acetaminophen.

In addition, five drugs for hypertension are described in the new PMIs. Previously, PMIs have been available for prescription drugs only.

A complete list of the new PMIs follows:

- phenothiazines
- tricyclic antidepressants
- antihistamines
- broncholdilator aerosols
- oral pentazocine
- propoxyphene and propoxyphene with aspirin or acetaminophen
- aspirin
- codeine
- acetaminophen
- amiloride and amiloride with thiazide
- triamterene and triamterene with thiazide
- prazosin
- spironolactone and spironolactone with thiazide
- clonidine
- methysergide
- diphenoxylate with atropine
- isotretinoin
- potassium supplements
- methodtrexate (for psoriasis)
- steroid and antibiotic eyedrops

PMIs are 5½" x 8½" sheets printed on both sides with instructions in clear, simple language detailing the purpose of the drug, how it is to be taken and its possible side effects. Space is provided for physicians to write in the dosage and any special instructions for individual patients.

Doctors who would like to order PMIs should write to the AMA Order Department-PMI Program, 535 North Dearborn St., Chicago, Illinois 60610. The cost per pad of 100 is $1.00, which includes postage and handling. Minimum order is five pads. *Payment should be prepaid.*

See Order Form on Page 4.

AMA-Network

MSMA Adds Staff to Market AMA Information Network

The Missouri State Medical Association has introduced Sandra Lee Newman as Director of Special Projects. Sandra will be marketing the new AMA-Network.

The network, produced jointly by the AMA and GTE, will offer its subscribers the latest information on: Drugs, Diseases, Medical Procedures, Socio-Economic Bibliography and MED/MAIL. In addition, two new programs will soon be added: Category I CME from Massachusetts General Hospital and Excerpta Medica.

Sandra earned her Master of Arts degree from the University of Connecticut. She has served the medical community as an audiologist and speech pathologist in the Kansas City area and has acquired a wide knowledge of computer technology and telecommunications.

"Using the AMA-Network," Sandra says, "our physicians can have immediate access to current, authoritative medical information, much of it updated weekly. Hospitals can post surgery schedules and lab results electronically, and the Association will be able to communicate instantly with physicians in cases of a legislative alert."

The Missouri State Medical Association is proud to be able to offer the AMA-Network to its members. MSMA members, component medical societies and hospitals are urged to contact Sandra for an appointment. Direct your inquiries to the MSMA office at 314-636-5151.

Groundwork Underway

MSMA Readies to Apply for State PRO Contract

Missouri physicians now have the opportunity to become involved in the development of a Peer Review Organization for Medicare patients. With the issuance of a Scope of Work in September and a Request for Proposals to be issued later this month, the Missouri Patient Care Review Foundation is preparing the groundwork to apply for the statewide Peer Review Organization contract.

The Foundation is a cooperative effort between the Missouri State Medical Association and the Missouri Association of Osteopathic Physicians and Surgeons. The PRO will replace the current PSROs as new contracts are issued. The Health Care Financing Administration anticipates awarding the contract in early summer 1984.

"Over the next ninety days, we will be appointing the committees that will be developing the review mechanisms and establishing the PRO objectives. There are ample opportunities for any physician to be appointed simply by indicating his or her desire to the MSMA office or any MSMA officer," said T.J. Cooper, M.D., temporary chairman of the Foundation.

Dr. Cooper, a St. Louis pathologist, was elected temporary chairman in a meeting of the Foundation's Board of Directors on September 29. In other actions, the Board:

- ■ elected Dr. George Wohlschlaeger, D.O. as temporary vice-chairman and John I. Matthews, M.D., as temporary secretary-treasurer
- ■ approved employment of a consultant to prepare the application to become the statewide PRO
- ■ approved requesting the current PSROs to become subcontractors to perform certain services for the Foundation and if they are unwilling, component societies be approached, and

Dr. Victor Buhler

Former MSMA President Dies

Victor B. Buhler, M.D., 74, died Oct. 6, 1983 at his home in Kansas City. Dr. Buhler served as president of the Missouri State Medical Association from 1955-1956.

During his 47 years in Kansas City, Dr. Buhler served as pathologist at four area hospitals. He taught at the University of Missouri-Kansas City and the University of Kansas medical schools and was a guest lecturer for the Avila College biology department.

His interest in clinical research led to his discovery of a disease-causing organism that eventually was named *M-Tuberculosis kansasii.* Dr. Buhler received the Scientific Products award as the 1964 Outstanding Pathologist of the Year.

Dr. Buhler also served as president of the College of American Pathologists from 1963-1965, the Missouri Society of Pathologists from 1958-1959, the Kansas City Society of Pathologists from 1952-1953, and the Kansas City Southwest Clinical Society from 1957-1958.

Insurance Plan Announces Major Changes

Several major changes, effective Jan. 1, 1984, have been announced for the Missouri State Medical Care Plan, which covers more than 30,000 state employees, retirees and dependents.

The current deductible is $100 for individual and $300 for family. Under the new Plan, the deductible will rise to $150 for individual and $450 for family.

Beginning in the new year, the Plan will pay 80 percent (rather than the current 100 percent) of the first $5,000. The Plan will continue, however, to pay 100 percent for diagnostic outpatient services and X-rays and will also begin to pay 100 percent for second and third opinions on surgery.

In addition, the Care Plan will begin utilizing 16 new cost containment procedures.

If you have questions, you may call:
Claims Office: 1-800-392-8787
1-314-636-8131
Missouri State Employees
Retirement System: 1-314-751-1342

Resolutions Sought for 1984 Convention

MSMA members, component medical societies and medical student delegates who wish to introduce resolutions at the 1984 Annual Convention of the Missouri State Medical Association must submit their resolutions by February 1, 1984 for insertion into the Delegate Handbook.

Any resolution introduced after that time must be made available to the House of Delegates 24 hours before the session in which it is to be introduced. Sufficient copies of the resolution must be supplied by the individual or society sponsoring the resolution.

At the second session of the House, the same procedure must be followed, but introduction required two-thirds approval of the House of Delegates. Unanimous approval is needed for introduction at the final session.

The Missouri State Medical Association's 126th Annual Convention will be held at the St. Louis Marriott Pavilion Hotel, March 29-April 1.

★ Tip of ★ the Month

Pennie Ormsby, office manager for Albert C. Knoerr, M.D. in Lubbock, Texas, has this tip to share with you:

"A few months ago, our office started having Saturday morning hours. One Saturday, our physician found it necessary to be out of town. We didn't want patients to think we were giving up Saturday hours, so our receptionist came in that morning, referred patients who called to a covering physician and took down their names.

"Monday, our nurse pulled the charts and telephoned each of the patients who'd called Saturday. We found that none of them had gone to the physician we referred them to. They were appreciative of the fact that our staff was genuinely concerned . . . and, they all made appointments to be seen."

Copyright *The Doctor's Office,* 24 W. King St., Lancaster, PA 17603.

Send your tip to: **Tip of the Month**
Progress Notes, P.O. Box 1028,
Jefferson City, MO 65102.

The AMA Announces...

20 NEW PATIENT MEDICATION INSTRUCTION SHEETS

Now there are 60 PMIs available to help educate your patients about the drugs you prescribe for them

Your patients want to know!
Your patients need to know!
Now you can contribute to better patient education by distributing PMI sheets. PMIs are handy, tear-off drug information sheets that are meant to supplement your verbal instructions to your patients.

PMIs help to improve compliance, strengthen your relationship with your patients, and reduce the number—but enhance the importance—of the call backs you receive.

Quick, simple, balanced drug information

PMIs contain scientifically sound information regarding the drugs you most frequently prescribe. To prevent confusion, particular care has been taken to make PMIs easy-to-understand and easy-to-read. To avoid needlessly alarming the patient, PMIs do not list all adverse drug reactions or less well-documented and rare reactions.

Benefits you and your patients

It is the proper and vital role of the physician to provide drug use information to patients. While face-to-face counseling is an indispensable part of patient education, counseling supplemented by written information has been shown to be the most effective.

PMIs help to improve patient compliance, strengthen your professional relationship with your patients, and reduce the number—but enhance the importance—of the call backs you receive.

ORDER YOUR PMIs TODAY!

Complete this order form and mail it with your payment to:

PMI Order Dept.
American Medical Association
P.O. Box 8052
Rolling Meadows, IL 60008

(Please print)

Name ____________________

Address ____________________

City ____________________

State/Zip ____________________

Number of pads — PMI Number and Title

______ 027 Allopurinol
______ 018 Belladonna Alkaloids and Barbiturates
______ 012 Benzodiazepines
______ 004 Beta-Blockers
______ 009 Cephalosporins—Oral
______ 032 Chloramphenicol—Oral
______ 017 Cimetidine
______ 031 Clindamycin/Lincomycin—Oral
______ 016 Corticosteroids—Oral
______ 006 Coumarin-Type Anticoagulants
______ 005 Digitalis Medicines
______ 034 Ergot Derivatives
______ 010 Erythromycin
______ 026 Ethosuximide
______ 001 Furosemide
______ 024 Guanethidine
______ 022 Haloperidol
______ 023 Hydralazine
______ 035 Indomethacin
______ 015 Insulin
______ 038 Iron Supplements
______ 033 Levodopa/Carbidopa and Levodopa
______ 021 Lithium
______ 014 Methyldopa
______ 030 Metronidazole
______ 040 Nifedipine
______ 013 Nitroglycerin Sublingual Tablets
______ 011 Nonsteroidal Anti-Inflammatory Drugs
______ 007 Oral Antidiabetes Medicines
______ 003 Penicillins—Oral
______ 036 Phenylbutazone/Oxyphenbutazone
______ 019 Phenytoin
______ 037 Quinidine/Procainamide
______ 020 Sulfonamides
______ 008 Tetracyclines
______ 002 Thiazide Diuretics
______ 029 Thyroid Replacement
______ 025 Valproic Acid
______ 039 Verapamil
______ 028 Xanthine Derivatives—Oral

NEW PMIs now available!

______ 049 Acetaminophen
______ 050 Amiloride and with Thiazide
______ 043 Antihistamines
______ 047 Aspirin
______ 044 Bronchodilator Aerosols
______ 054 Clonidine
______ 048 Codeine
______ 056 Diphenoxylate with Atropine
______ 057 Isotretinoin
______ 059 Methotrexate (for psoriasis)
______ 055 Methysergide
______ 045 Pentazocine—Oral
______ 041 Phenothiazines
______ 058 Potassium Supplements
______ 052 Prazosin
______ 046 Propoxyphene and with Aspirin or Acetaminophen
______ 053 Spironolactone and with Thiazide
______ 060 Steroid and Antibiotic Eye Drops
______ 051 Triamterene and with Thiazide
______ 042 Tricyclic Antidepressants

______ Total number of pads (5 pad minimum, 50 PMIs per pad)
$ 1.00 Per pad
$ ______ Subtotal
$ ______ Residents of IL and NY must add appropriate sales tax to subtotal
$ ______ Total payment (check enclosed)

In vitro studies demonstrate

Bactericidal activity

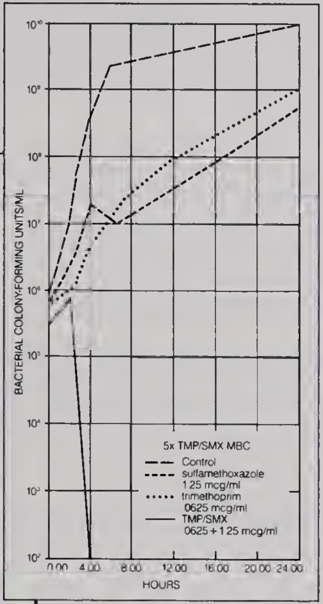
with minimal resistance

Percent of isolates of common uropathogens sensitive to BACTRIM and to other antimicrobials

	Escherichia coli	*Klebsiella pneumoniae*	*Proteus mirabilis*	*Proteus vulgaris*	*Proteus sp.*	*Enterobacter sp.*	*Enterobacter aerogenes*	*Enterobacter cloacae*
BACTRIM	**96%** 328,598	**89%** 63,551	**93%** 62,691	**84%** 4174	**91%** 4381	**88%** 1736	**96%** 7326	**92%** 11,856
ampicillin	72% 345,209	5% 65,466	85% 67,338	16% 4381	70% 4402	10% 1775	9% 7759	11% 12,091
cephalexin†	81% 343,339	85% 67,031	92% 67,027	16% 4398	80% 4365	22% 1834	13% 7571	12% 11,846
nitrofurantoin	97% 307,785	65% 61,162	7% 59,775	13% 3848	14% 3059	67% 1707	60% 7109	67% 10,830

†Analogous to cephalothin, the primary antibiotic disc used in testing.
Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series, 1981-82.
Numbers under percentages refer to the projected number of isolates tested.

RAPID *IN VITRO* DESTRUCTION OF *E. COLI**



Kill curve kinetics of Bactrim and its individual components against *E. coli in vitro.*[1]

The bactericidal action of Bactrim has been demonstrated *in vitro* on laboratory strains of *E. coli*[1,2] and on clinical isolates of *E. coli, Klebsiella-Enterobacter, Proteus mirabilis* and *Morganella morganii*[3]—the most common causative organisms of urinary tract infections.[4] More than 100 published studies attest to the efficacy of Bactrim in recurrent urinary tract infections due to these organisms.[5] In comparative studies with other antimicrobials, Bactrim has consistently demonstrated unsurpassed efficacy during therapy.[6-11]

Resistance to Bactrim develops more slowly than to either of its components alone *in vitro.** Among urinary tract isolates, resistance has rarely emerged in susceptible strains.[5,12] Bactrim is contraindicated in pregnancy at term, during lactation, in infants less than two months old and in documented megaloblastic anemia due to folate deficiency.

Initial episodes of uncomplicated urinary infections should be treated with a single-agent antimicrobial.

Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

b.i.d. *for recurrent urinary tract infections*

**In vitro* data do not necessarily predict clinical results.

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See next page for references and a summary of product information.

References: 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Kramer MJ, Maunz YR, Robertson TL, Timmes MD: Morphological studies on the effect of subinhibitory and inhibitory doses of sulfamethoxazole-trimethoprim combination on *Escherichia coli*. Presented at the 12th International Congress of Chemotherapy, Florence, Italy, Jul 19-24, 1981. **3.** Spicehandler J *et al: Rev Infect Dis 4*:562-565, Mar-Apr 1982. **4.** Stamey TA: *Pathogenesis and Treatment of Urinary Tract Infections*. Baltimore, Williams & Wilkins, 1980, p. 13. **5.** Ronald AR: *Clin Ther 3*:176-189, Mar 1980. **6.** Cooper J, Brumfitt W, Hamilton-Miller JMT: *J Antimicrob Chemother* 6:231-239, 1980. **7.** Gower PE, Tasker PRW: *Br Med J 1*:684-686, Mar 20, 1976. **8.** Cosgrove MD, Morrow JW: *J Urol 111*:670-672, May 1974. **9.** Iravani A *et al: Antimicrob Agents Chemother 19*:598-604, Apr 1981. **10.** Schaeffer AJ, Flynn S, Jones J: *J Urol 125*:825-827, Jun 1981. **11.** Rous SN: *J Urol 125*:228-229, Feb 1981. **12.** BAC-DATA Medical Information Systems, Inc., Bacteriologic Reports, Winter Series, 1976-82.

Bactrim™ DS
(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients. *Pregnancy:* Teratogenic Effects: Pregnancy Category *C*. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: *Not recommended for infants less than two months of age.*

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets*, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 20. *Tablets*, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per tea spoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

ROCHE®

ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

References:
1. Stone PH, Turi ZG, Muller JE Efficacy of nifedipine therapy for refractory angina pectoris *Am Heart J* 104:672-681, September 1982
2. Antman E, Muller J, Goldberg S, et al Nifedipine therapy for coronary-artery spasm: Experience in 127 patients *N Engl J Med* 302 1269-1273, June 5, 1980

BRIEF SUMMARY

PROCARDIA® (nifedipine) **CAPSULES** For Oral Use

INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e g , where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and or adequate doses of beta blockers

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and or organic nitrates or who cannot tolerate those agents

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs (See Warnings)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA

WARNINGS: **Excessive Hypotension**: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers

Severe hypotension and or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA

Congestive Heart Failure: Rarely patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA Patients with tight aortic stenosis may be at greater risk for such an event

PRECAUTIONS: **General**: **Hypotension**: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested Close observation is especially recommended for patients already taking medications that are known to lower blood pressure (See Warnings)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA This edema occurs primarily in the lower extremities and usually responds to diuretic therapy With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction

Drug interactions: Beta-adrenergic blocking agents (See Indications and Warnings) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina

Long-acting nitrates PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination

Digitalis Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers The average increase was 45% Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization

Carcinogenesis mutagenesis, impairment of fertility When given to rats prior to mating nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose

Pregnancy Category C Please see full prescribing information with reference to teratogenicity in rats embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5% Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication Additionally the following have been reported muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever sweating, chills, and sexual difficulties Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients It remains possible, however, that some or many of these events were drug related Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2% Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy The relationship to PROCARDIA therapy is uncertain These laboratory abnormalities have rarely been associated with clinical symptoms Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature

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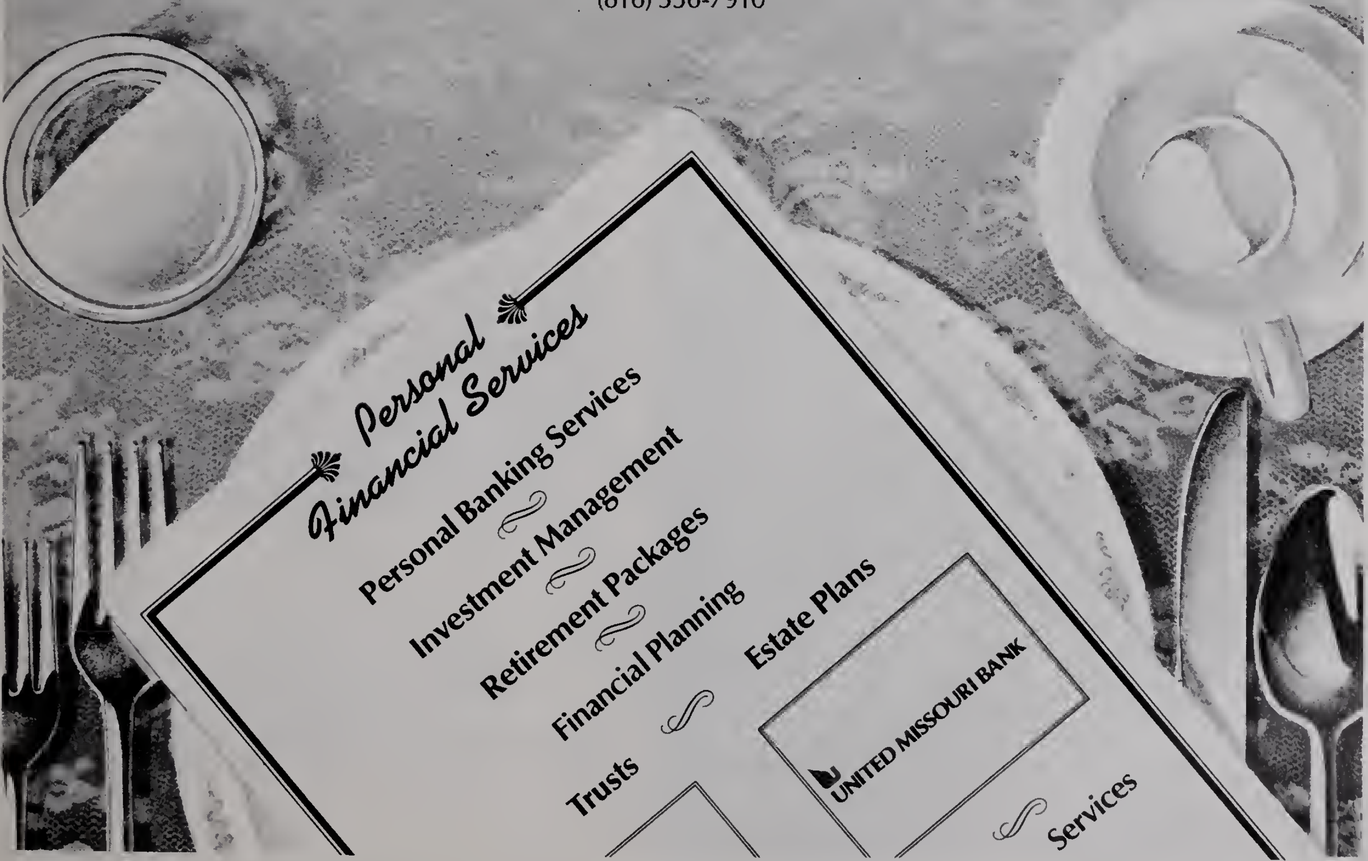
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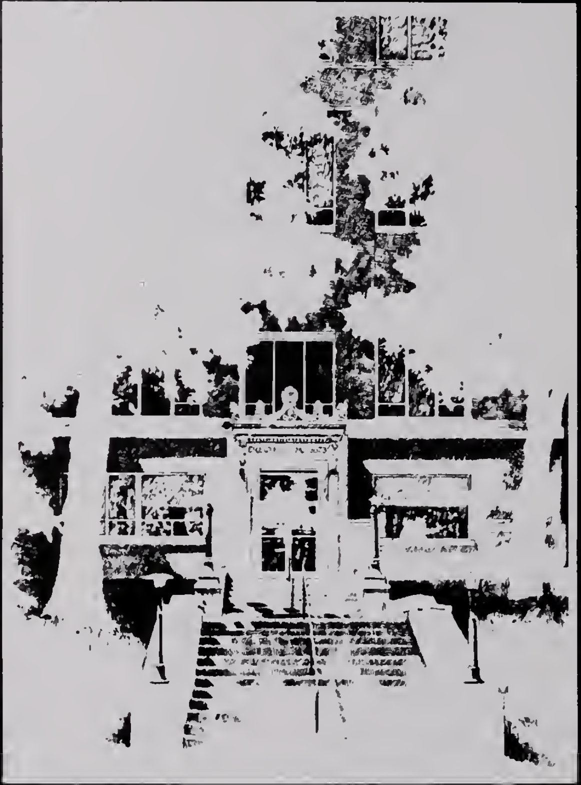

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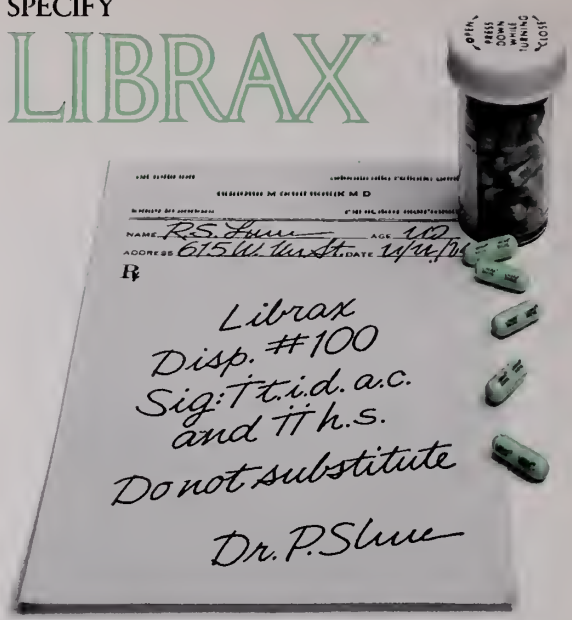

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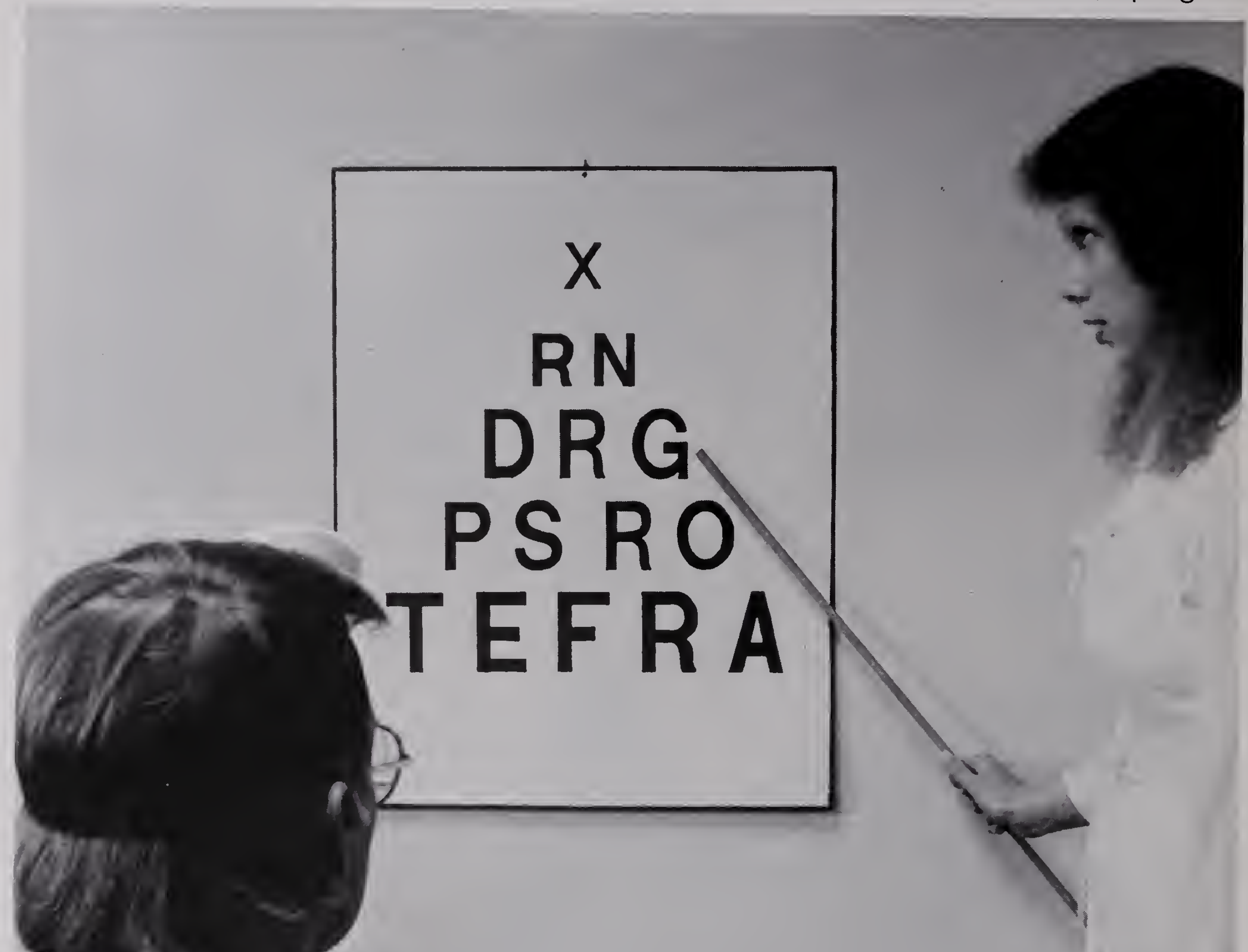
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"How do you read *this*, Doctor?"

Editor's Corner

EDITORIAL

It was bound to happen sometime, somehow. With our national government unable to cope politically with the fact that today's medical advances and demographic changes have made it nearly impossible to maintain its Medicare health program, some step had to be taken. The philosophy of minimal-cost total medical care for the older segment of our population has come about largely because of its political appeal, and now the Thinkers and Planners are stuck with it.

The oncoming system of hospital — and later physician — payments by Diagnosis Related Groupings (DRG) is designed to save billions of federal dollars. To its promoters, it will force efficiency on supposedly inefficient hospitals and prevent overutilization of facilities but not reduce quality of service. Doctors and hospital administrators, who generally know better, feel that the system will shrink the capital, technology and human resources capacity of the hospitals to the ultimate detriment of patient care.

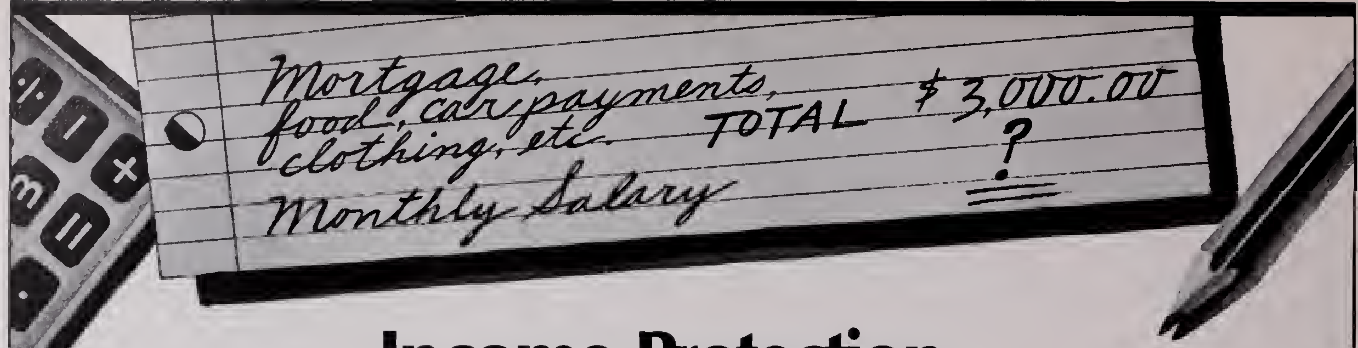
The problems inherent in trying to make practical sense, let alone dollar sense, out of a system of payments based on different medical diagnoses are enough to warm the heart of any born-again bureaucrat. Physician response has ranged from unquestioning acquiescence to red-necked bellowing at the whole idea. The chief criticism of the plan would seem to be that it draws focus and energies away from the set of circumstances behind the problem. Technology in the field of medicine has advanced so far that a tremendous number of diagnostic and treatment modalities are now available for use. The development and labor costs of using such equipment and performing such new procedures are now so high that they're just about too expensive to be utilized on all potential patients, especially in the limited-fund Medicare system. Denying patients the advantages of CAT scans for diagnosis, or artificial joints or intraocular lenses, has no appeal for any of us.

The physicians' frustration with the coming of DRGs has many facets. Hospital administrators are approaching the doctors with a stick of candy in one hand and a club in the other in preparation for the new order. Doctors are facing the oncoming confusing but dictatorial DRG guidelines with all the enthusiasm of medical students heading into an examination on gross anatomy. There's also the dubious honor of having not only to live with the system, but also to be an active part of it, often involving enforcing rules governing the way one's cohorts treat their patients.

The DRG concept is already producing interesting results. We're getting to meet hospital administrators we've never seen before. Record room personnel are coming blinking out of their dark corners into the bright-light parts of the hospitals, ready to help insure diagnosis coding of the highest financial return to the institution. Business office employees, after learning that Outliers are not necessarily people who live in the country, are now sharpening up on Supplemental Diagnoses.

One can only wish that there had been a high level meeting of medical and governmental minds to discuss the problem in a prospective way. The fact that health care now involves 10% of the gross national product calls for some redefining of priorities. The public should have been involved with decisions as to how many of the modern health services they are willing to pay for. Unfortunately, an approach along such lines is at best something that could have happened. DRGs are for real, and facing the basic problems concerning our health delivery system has yet to happen.

JORDAN W. BURKEY, M.D.
Springfield



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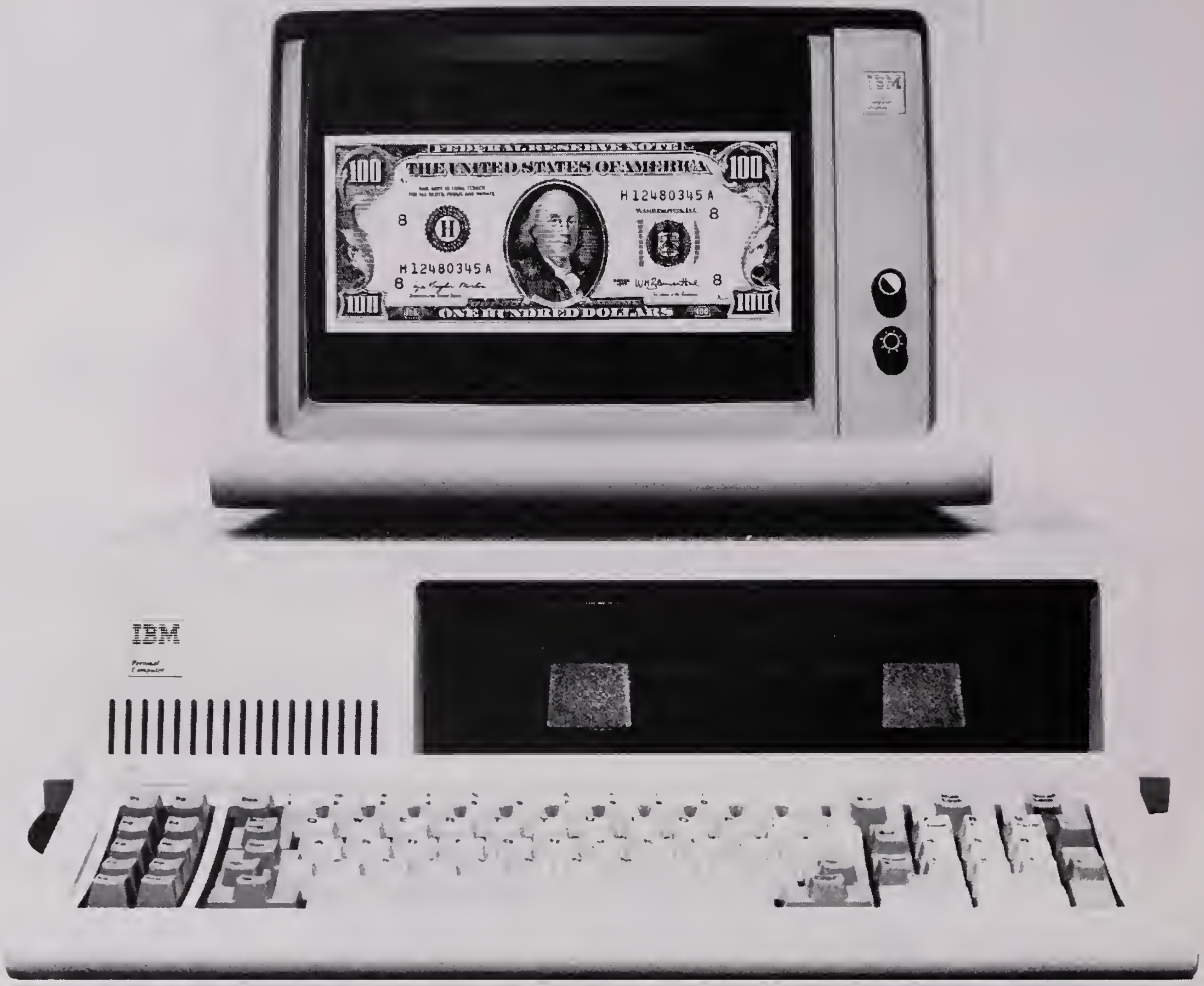

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Missouri Medicine

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THOMAS S. HELLING, M.D., *Kansas City*

Complications of Pelvic Fractures in Victims of Major Trauma

This retrospective analysis of 73 patients who suffered fractures of the pelvis showed a 77% incidence of associated injuries that were mostly orthopedic, thoracic and abdominal trauma. More extensive pelvic fractures are more likely to be associated with additional injuries, particularly visceral or urogenital.

Dr. Helling is an Attending Surgeon and Director of the Trauma Unit at St. Luke's Hospital and Clinical Assistant Professor of Surgery at the University of Missouri-Kansas City School of Medicine.

FRACTURE OF THE PELVIS remains a common injury as a result of nonpenetrating trauma. Although usually an isolated injury in the elderly as a result of relatively minor falls, such fractures in younger victims may have more serious implications. Not only do extensive pelvic fractures result in long periods of immobilization and disability, but they may be associated with additional potentially life-threatening problems. Through awareness, recognition and treatment of complicating injuries, morbidity and mortality can be kept at a low level. For this purpose, we have reviewed the cases of 75 patients suffering pelvic trauma to emphasize aspects of patient care and treatment of such injuries at our institution.

CLINICAL MATERIAL

The records of all patients with pelvic fractures admitted to St. Luke's Hospital from Jan. 1, 1975 through Dec. 31, 1981 were retrospectively reviewed. Patients with fractures as a result of renal osteodystrophy or neoplastic bone disease were excluded. During this period, 201 patients were hospitalized with pelvic fractures. One-hundred twenty-six of these patients sustained their fractures from relatively minor falls, were mostly elderly and will not be considered in detail. Of the remaining 75, 33 male patients and 42 female patients suffered pelvic injuries from significant trauma: 37 (49%) from automobile accidents, 15 (20%) from pedestrian/automobile accidents, nine (12%) from falls from 20 feet or more, nine (12%) from crush injuries, three (4%) from motorcycle accidents, and two (3%) from assaults. These injuries occurred in a younger age group graphically depicted in Fig. 1.

The most common type of pelvic fracture was a unilateral fracture of one or both pubic rami (60%). Fourteen patients sustained more than one injury to the pelvis. They were most commonly acetabular fractures or fracture/separation of the hemipelvis (Malgaigne fracture).

There was only one death in this group in the first 24 hours. This patient had an unrecognized tear of the descending aorta and suddenly and quickly exsanguinated. Eleven patients (15%) manifested evidence of hypovolemic shock on

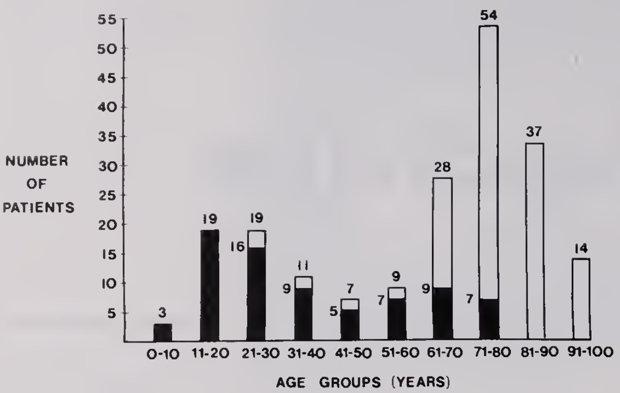

Fig. 1 The number of pelvic fractures in 201 patients according to age groups. Solid bars indicate the 75 patients included in the study group. Open bars represent patients who are suffering pelvic fractures from relatively minor trauma and who are predominately in older age groups.

admission. All patients in this group were resuscitated with a combination of crystalloid and colloid solution and blood, and none required ligation or embolization of major pelvic vessels.

Fifty-eight (77%) patients suffered additional injuries (Table 1). In this group, there were ten of 12 patients with fractures of the hemipelvis (including all four patients with rupture of the urinary bladder) and nine of 12 patients with bilateral fractures of the pubic ramus. Associated problems were identified in 60% of patients with unilateral pubic ramus fractures. Orthopedic injuries were commonly encountered. Thirty-one patients sustained 55 fractures and dislocations, most often to the lower extremities (Table 2).

TABLE 1
INJURIES ASSOCIATED WITH PELVIC FRACTURES IN 58 PATIENTS

Orthopedic injuries	31
CNS injuries	5
Head and neck injuries	3
Thoracic injuries	18
Hemo/pneumothorax	6
Injury to great vessels	1
Lung contusion	2
Ruptured diaphragm	2
Fractured ribs	17
Abdominal injuries	9
Liver lacerations	2
Ruptured spleen	4
Kidney fracture	1
Small bowel injury	2
Rectal injury	1
Ruptured bladder	4
Pelvic hematomas	7
Hematuria	22
Soft tissue (extremity) injuries	9

Thoracic trauma was seen in 18 patients. Rib fractures were found in all but one patient in this subgroup. In addition, six patients had unilateral or bilateral hemopneumothorax requiring early treatment. Abdominal injuries necessitating exploration were found in nine patients, four with fractures of the hemipelvis, three with bilateral pubic rami fractures, and two with unilateral fractures of the pubic ramus. Injury to upper abdominal viscera, spleen, liver and kidney were most commonly encountered.

The average hospital stay for 74 of 75 patients (the one death excluded) was 26.2 days. Complications during hospitalization were few. Pulmonary embolization was documented in four patients (5%) and all responded to conventional anticoagulation and survived. Two patients treated nonoperatively developed prolonged paralytic ileus. One patient experienced an upper gastrointestinal bleed from gastritis and duodenitis that responded to antacid therapy. One patient developed a severe adult respiratory distress syndrome from which he eventually recovered.

Discussion

Peltier[1] recognized early the serious implications of pelvic fractures. He documented that 60% of patients in his series suffered additional injuries and 9% died as a result. Patterson and Morton[2] also examined the consequences of pelvic fractures and found that 70% of their patients died as a result of a complication of injury rather than of the pelvic fracture itself, and that the majority of deaths (67%) occurred in the first 24 hours. Although rarely fatal, orthopedic trauma is

TABLE 2
FRACTURES AND DISLOCATIONS IN 31 PATIENTS WITH PELVIC TRAUMA

Upper Extremity	15
Clavicle	4
Humerus	3
Radius	3
Ulna	4
Metacarpal	1
Lower Extremity	37
Femur	7
Hip (dislocation)	5
Tibia	12
Fibula	9
Calcaneus	2
Metatarsal	2
Ankle (dislocation)	2
Vertebrae	
Dorsal	1
Lumbar	2

found in a sizable number of patients and may contribute to blood loss. More dangerous is the presence of occult visceral injury that is sometimes overlooked in the hurry to treat more obvious extremity trauma.

Levine and Crampton[3] reported that 8.2% of patients in their series sustained major abdominal injuries. Murr and co-authors[4] noted that 11 of 70 patients required celiotomy for serious intra-abdominal trauma in association with pelvic fractures, and Reynolds and colleagues[5] found that 9% of patients in their series required operative intervention for associated injuries. In the present series, nine of 75 patients (12%) required exploration for intra-abdominal trauma.

Attempts have been made to correlate the type of fracture with the likelihood of associated injuries. Peltier[1] noted that the mortality was higher among patients with bilateral fractures of the pubic rami, central dislocations of the hip, and fractures of the hemipelvis. The highest incidence of complicating injuries was found in patients with fractures of the hemipelvis (Malgaigne fractures). Looser and Crombie[6] demonstrated that fractures of the posterior pelvis (i.e. sacrum, ilium, and sacro-iliac joints) were related to higher mortality and a larger number of associated injuries than did fractures of the anterior pelvis. Trunkey and co-workers[7] divided pelvic fractures into comminuted (crush) fractures (Type I), unstable fractures of the hemipelvis (Type II), and stable (Type III) fractures. Mortality and morbidity, including the incidence of respiratory distress syndrome, were highest in Type I and lowest in Type III fractures. Likewise, more extensive fractures (bilateral pubic rami, hemipelvis) in our series were associated with more extrapelvic trauma. It is evident from these studies that patients suffering bilateral pelvic fractures or fracture dislocations of the pelvis may harbor additional problems because more force has been inflicted.

Intra-abdominal injuries have also been linked to patients in profound shock. Murr and associates[4] found that patients with visceral injuries required significantly more blood transfusions than patients without abdominal trauma. An average of 8.6 units per patient was required for patients who had sustained abdominal injuries compared to 3.5 units per patient for those who had not. Reynolds and co-workers[5] reported similar findings.

Although a significant amount of blood can be lost into the pelvis and other long-bone injuries, patients requiring large volumes of fluid in resuscitation should be suspect for visceral trauma. Overlooking such injuries may be fatal for the patient as pointed out by Perry and McClellan.[8] There were five deaths from unrecognized intra-abdominal bleeding in the St. Luke's series. It seems reasonable for patients with unstable vital signs, despite rapid fluid administration, to proceed with exploratory celiotomy even if there is associated orthopedic trauma. In equivocal situations or in the comatose patient, peritoneal lavage can be useful. Hubbard and colleagues,[9] however, cautioned that false positive results can occur with pelvic fractures, presumably due to dissection of retroperitoneal of pelvic hematomas anteriorly or diapedesis of red blood cells from pelvic hematomas into the peritoneal cavity. Even so, we have not been hesitant to use peritoneal lavage in any patient admitted while in shock, with or without abdominal findings.

Injury to the lower urinary tract is likely in patients with hematuria (gross or microscopic), inability to void, or a bloody urethral discharge. Hematuria, by itself, is a common occurrence in pelvic fractures and is found in 30% of our patients. Any suspected injury should be evaluated, first, by retrograde urethrography, followed by cystography and intravenous pyelography. It is important to remember that microscopic hematuria may represent serious urological trauma and must be assessed as thoroughly as gross hematuria.

Injuries to the posterior urethra usually occur by tension on the membranous urethra from disruption or displacement of the pubic bones and puboprostatic ligament. Such injuries may occur with bilateral displaced fractures of the pubic rami, fractures of the hemipelvis, or diastasis of the symphysis pubis.[10, 11] The bladder can be damaged by direct penetration from bony spicules or by sudden compression producing rupture. Some authors feel that a full, distended bladder is a prerequisite for rupture and that any empty bladder is seldom injured.[10] Usually, "bursting" of a full bladder occurs near the dome and into the peritoneal cavity while extraperitoneal leaks are usually caused by tearing from bony fragments.

During cystography or intravenous pyelography, pelvic hematomas may be found compressing the walls of the bladder and can be a source of occult bleeding. Treatment of these hematomas is usually unnecessary unless profuse hemorrhage results, unresponsive to fluid administration, or application of anti-shock trousers.[12] Arteriography with selective embolization seems preferable to operative intervention in such cases.[13, 14] Late sequelae of pelvic hematomas are rare although pelvic abscesses, even with closed fractures, have been reported by Trunkey and associates[7] and O'Keefe.[15] The condition of seven of our patients was diagnosed radiographically as significant pelvic hematomas. No immediate or late problems were encountered.

Although much less common than urologic trauma, rectal injuries can still occur with pelvic fractures, particularly in extensive crush injuries.[5, 7, 15] Mortality from such injuries can be high, usually from uncontrollable hemorrhage. Early diverting colostomy and distal rectal washout is imperative to avoid late problems with infections.[16] Initial digital rectal examination is important, and any blood on the examining finger can be considered as evidence for rectal injury.

Late complications in this relatively young population of patients are rare and many of the deaths occur early (within the first 24 hours) as a direct result of the injury.[2] Prolonged immobilization and bed rest may cause concern over development of deep vein thrombosis and subsequent embolization. We have observed episodes of pulmonary emboli in four patients (5%) and successfully treated them in a conventional manner with anticoagulation. Trunkey and associates[7] reported eight patients (4%) with pulmonary emboli, all of whom survived. Reynolds *et al*[5] described only four of 273 patients who developed pulmonary emboli and all four survived. Due to the small number of patients experiencing pulmonary embolism in both our series and others, we do not feel the need for prophylactic low dose anticoagulation or vena cava clipping in pelvic trauma.

SUMMARY

A review of 73 patients with fractures and dislocations of the pelvis demonstrates a high probability (77%) of associated injuries. Although the majority of injuries were orthopedic and not immediately life-threatening, a significant number of patients (15%) were admitted while in hypovolemic shock and nine patients (12%) required exploratory celiotomy for visceral injuries. Bilateral pubic rami fractures and fracture-dislocations of the hemipelvis are more likely to be associated with additional injuries, particularly trauma to visceral organs and the urogenital system. Patients who have fractures or who require vigorous resuscitation should be suspected of having intra-abdominal trauma and be treated accordingly. Urologic injuries require full radiographic evaluation prior to instrumentation. Knowledge and recognition of complications of pelvic fractures may help to keep mortality and morbidity of this relatively common injury at a low level.

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Missouri State Medical Association
126th ANNUAL CONVENTION
March 29-April 1, 1984
Marriott Pavilion Hotel, St. Louis

BARBARA NOHINEK, M.D., *Kansas City*
and J. JOSEPH MARR, M.D., *Denver, Colo.*

Tularemia

Two Manifestations in an Urban Man

TULAREMIA is an occasional disease of man contracted from small animals or insect carriers. It occurs most often in rural dwellers, hunters or animal trappers residing in endemic areas and is uncommon in the urban dweller. The oculoglandular form appears in less than 1% of cases; the usual manifestation of tularemia is the ulceroglandular form. Following is a case report of both ulceroglandular and oculoglandular tularemia in an urban man.

CASE REPORT

In early June, 1982, a previously healthy 33-year-old St. Louis area man was hospitalized after a two-week history of intermittent fevers to 104°F, conjunctivitis, pharyngitis and an ulcerated lesion on his right hand. His complaints began four days after skinning a rabbit that his dog had killed.

He noted first a pustule on the right hand. This was followed by pain, swelling, tearing and redness of the right eye that was accompanied by the febrile illness and superimposed pharyngitis. He was seen in the ophthalmology clinic on three occasions prior to admission for the conjunctivitis that did not improve with topical chloramphenicol. Five days prior to admission to the hospital, he was seen in a medical clinic for pharyngitis and dizziness. A throat culture revealed group A Beta-hemolytic streptococcus, but his condition did not improve with penicillin therapy and he was hospitalized.

The patient lives in a suburban area (Florrisant), is employed at a grocery store, and keeps pet squirrels and cats, all of which are healthy.

He was alert when admitted. His temperature was 101^4 orally; blood pressure, 120/60; pulse rate, 60; respiration rate, 20. Examination showed chemosis of the right eye with conjunctivitis of both the bulbar and palpebral portions with yellow granular areas scattered over the palpebral conjunctiva (Fig. 1). Preauricular and infraorbital adenopathy was present on the right side. The left side was uninvolved. Cervical adenopathy was present on the right side and submandibular adenopathy was present bilaterally. The pharynx was inflamed. There was a raised, ulcerated 0.5 cm by 1.0 cm lesion on the right hand (Fig. 2). A tender right epitrochlear node was palpable. Results of the remainder of the examination showed no abnormalities.

Laboratory studies showed the following

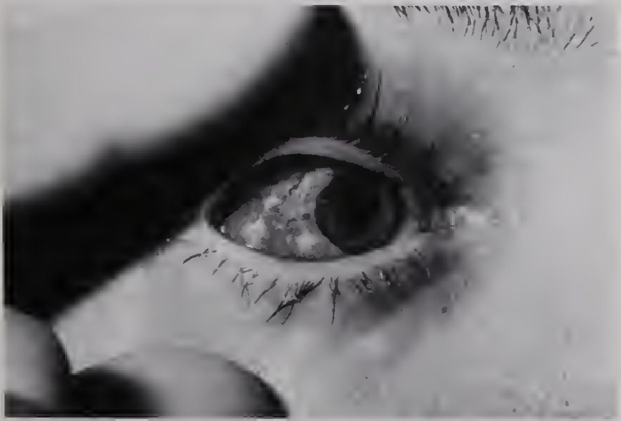

Fig. 1 Conjunctivitis of the right eye from tularemia.

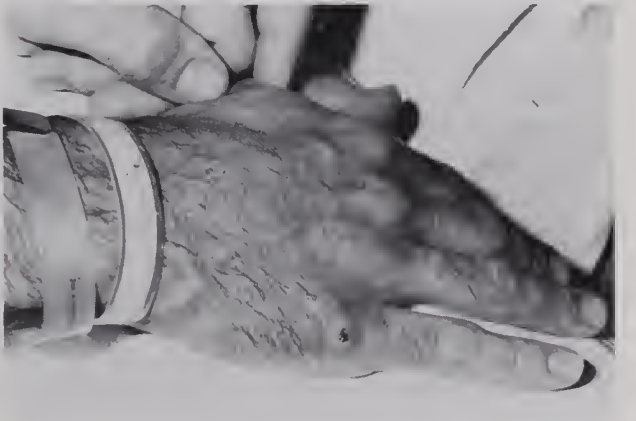

Fig. 2 Ulcerated lesion of the right hand.

Tularemia, a rare febrile disease commonly known as "rabbit fever," is endemic to Missouri. Once thought to be a disease almost exclusively of the rural population, it also can be seen in urban residents. The disease is usually manifested by persistent fever, a cutaneous ulcer and, in rare cases, conjunctivitis. The diagnosis of tularemia may be elusive since signs and symptoms are often non-specific and the organism is difficult to grow. When the disease is suspected, treatment with appropriate antibiotics brings symptomatic relief. Serological tests are useful in establishing the diagnosis.

Dr. Nohinek is from the Department of Medicine, University of Missouri-Kansas City School of Medicine, and Dr. Marr is from the Departments of Medicine and Microbiology, University of Colorado Medical Center in Denver. Dr. Nohinek and Dr. Marr were in the Department of Medicine, St. Louis University School of Medicine at the time this paper was written.

values: hemoglobin, 15 gm/100 ml; hematocrit, 44%; white blood cell count of 11,700/cu mm with 69% polymorphonuclear leukocytes (PMNs), 9% band forms, 12% lymphocytes, and 10% monocytes. Sedimentation rate was 26; blood urea nitrogen value, 14 mg/100 ml; creatinine value, 0.8 mg/100 ml; alkaline phosphatase value, 96 units/100 ml (normal 19-69). The urinalysis, electrolytes and chest roentgenogram were normal as were results of the remainder of the liver function tests. Monospot test result was negative. Gram stain of pus aspirated from the hand lesion showed a few gram negative rods and PMNs. Cultures of blood, skin lesions and conjunctiva were obtained.

The patient was started on a regimen of 5 mg/kg of gentamicin a day intravenously and was given procaine penicillin for streptococcal pharyngitis and gentamicin ophthalmic ointment.

The conjunctival culture collected on cystine agar showed scant growth of a pleomorphic gram-negative coccobacillus after four days. The organism was sensitive to gentamicin, streptomycin, kanamycin, tetracycline and chloramphenicol and was resistant to trimethoprim/sulfamethoxasome, cefamandol, ampicillin, and penicillin. The organism was later identified by the Missouri State Health Laboratory and the Center for Disease Control (CDC) as *Francisella tularensis*.

By the fourth day of treatment, the fever had disappeared and the chemosis of the right eye had greatly decreased. He was treated with parenteral gentamicin for 14 days and with topical gentamicin to the eye for three weeks. His hand lesion healed. Follow-up visits to the ophthalmology clinic showed his conjunctivitis to be resolving. Tularemia titer on admission was 1:40 and Brucella abortus titers were negative. A repeat tularemia titer one week after discharge was 1:5120.

DISCUSSION

Tularemia was first described as occurring in ground squirrels by McCoy[1] while investigating a plague outbreak in Tulare County, Calif. in 1911. The first case in a human was confirmed bacteriologically by Wherry and Lamb[2] in 1914. The organism *Francisella tularensis* is found primarily in small wild animals and ticks and usually causes disease in man by his accidental contact with infected carcasses or by inoculation from a tick bite.

A history of skinning, hunting or preparing rabbits associated with an illness with fever and adenopathy with tenderness is the classical presentation. Thus, the name "rabbit fever" has been used to describe the disease. Transmission of tularemia by deerflies and ticks has been known since the early 1920s,[3] resulting in tularemia names of "deerfly fever" and "tick fever." More recently tularemia has been reported in patients after skinning a brown bear[4] and after contact with infected domestic cats.[5]

Although reported in all 50 states, the majority of cases come from endemic areas of rural Arkansas, Missouri and Oklahoma, where there are large populations of infected ticks and rabbits. About 160 cases of tularemia were reported annually to the CDC between the years 1969 to 1978.[6] In the first half of 1982, eighty-nine cases were reported.[7] Typically, these cases are reported from rural areas and in at-risk occupational groups such as hunters, animal trappers, sheep shearers and laboratory workers. Very few reports of disease come from urban or inner city areas.

In an analysis of 25 cases seen at the University of Missouri Medical Sciences Center during the years 1954 to 1969 the geographic distribution was found to be predominantly south of the Missouri River. Nineteen of the 25 patients contracted he disease in southwestern or south central counties of the state.[8] Similar epidemiologic findings were observed by Calloway in an earlier survey of 78 cases treated in a southwestern Missouri hospital over a four-year period.[9] Although most cases occur in rural areas, the case described here illustrates that tularemia must be suspected when the clinical syndrome indicates the disease even though the patient may not be from a rural area. Indeed, tularemia has been reported also in an inner city child from our area[10] and recently in Ohio[11] where it is not endemic.

Transmission may occur by several routes: direct inoculation through the skin or mucous membrane from infected animal tissue is most common, but inhalation or ingestion of the organism and/or contact with an infected tick may also cause disease. The organism, *Francisella tularensis,* a small gram negative bacterium, is extremely virulent in man. As few as 12 to 15 bacilli, if inhaled or injected, and 10^8 organisms, if ingested, may cause disease. After an incubation period of three to five days almost all patients experience fever with chills and malaise and then develop one of the following syndromes: ulceroglandular, oculoglandular or typhoid tularemia, or pneumonia.[12, 13] The most common manifestation is ulceroglandular disease which is seen in 60% to 80% of patients. In Calloway's survey,[9] one of 78 cases was oculoglandular. In Cox's analysis,[8] there was only one suspected case of oculoglandular tularemia.

In oculoglandular disease the organism is thought to enter the eye by direct inoculation from fingers or by airborne inoculation. In a case report from Arkansas the patient reported a tick bite but could not recall direct inoculation into the eye.[14] A patient in Virginia reported removing a tick and, upon squeezing the tick, accidentally squirting blood into her eye.[15] A similar mode of infection was reported when a child squirted blood into his eye from a tick plucked from a dog.[16] In another report, the child watched his father clean rabbits prior to onset of conjunctivitis.[10] Our patient most likely infected his eye by contact with an ulcer on his hand or direct inoculation from an infected carcass to eye.

The lesion of oculoglandular tularemia is usually unilateral, occurring in the conjunctival sac, and accompanied by symptoms of photophobia, itching and tearing. Small yellow-white granulomatous lesions form on the palpebral conjunctiva. There is extensive swelling of the eyelids and a mucopurulent discharge. Corneal ulcerations, scarring, or perforation of the globe may occur. Regional adenopathy usually accompanies the conjunctivitis in the preauricular, submaxillary, and anterior cervical lymph nodes.[16] The conjunctivitis usually heals slowly over 4 to 5 weeks.

The differential diagnosis of tularemia is extensive and includes other diseases which cause lymphadenopathy and fever such as infectious mononucleosis, scrofula, lymphoma, cat scratch disease, plague, staphylococcal or streptococcal lymphadenitis, sporotrichosis, toxoplasmosis, and *Pasteurella multocida* bite infections. Because titers are negative early in tularemia and culture of the organisms is difficult, disease must be suspected clinically and the patient treated without a firm diagnosis. An antibody appears in the second week of illness and reaches a peak in the fourth to sixth week. A single titer of 1 : 160 or greater or a four-fold rise in titer is considered diagnostic. Culture of the organism is difficult due to its fastidious growth habits. It may be cultured in cystine agar, but most laboratories are reluctant to isolate the organism because of the high risk of transmission to laboratory personnel.

The use of streptomycin (an intramuscular dose of 15-20 mg/kg a day for seven to ten days) in the treatment of tularemia was first reported in 1946[17] and it has since been established as the drug of choice. Gentamicin is a useful alternative and has been shown to be effective in vitro in humans and in animals.[18] Alternative therapy is possible with chloramphenicol or tetracycline but relapse may occur with use of these drugs particularly when administered for less than 14 days.

Tularemia in summary is a rare cause of fever and adenopathy and a rare cause of conjunctivitis, but it should be considered when the clinical picture is consistent with this diagnosis even in the urban or inner city patient.

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L. LEWIS WALL, M.D., D. Phil. and
HOWARD O. GRUNDY, M.D., *Kansas City*

Nonimmune Hydrops Fetalis

Case Reports and a Brief Review

Hydrops fetalis ("fetal edema") is a serious condition characterized by massive anasarca that is usually associated with ascites and pleural or pericardial effusions. Infants with this condition, if not stillborn, are usually severely asphyxiated at birth. Classically, the condition was regarded as the hallmark of erythroblastosis fetalis, but other causes have also been implicated.[1]

In 1943, Potter first described 17 cases of atypical hydrops fetalis that could not be associated with Rh isoimmunization or the pathological findings typical of erythroblastosis.[2] Since that time and with the decline of Rh incompatibility problems in pregnancy due to improved obstetrical care, nonimmune causes of fetal hydrops have been rising in importance.

Nonimmune fetal hydrops remains an unusual condition, however. The incidence has been estimated in several studies to be one case per 2,566 to 3,748 deliveries.[3-5] In spite of the rarity of this disorder, the perinatal medicine service at St. Luke's hospital in Kansas City was involved with six cases of nonimmune hydrops fetalis during the first eight months of 1982, a situation that prompted this brief report and review.

Nonimmune hydrops fetalis is the term applied to cases of fetal or neonatal anasarca in which blood-type isoimmunization is excluded as the cause. Although uncommon, fetal hydrops is associated with a high perinatal mortality and presents special problems in diagnosis, management and determination of the cause. Six cases of this unusual condition are discussed by the authors and form the basis for a brief review of this condition, antenatal diagnosis and subsequent management.

Dr. Wall and Dr. Grundy are from the Department of Maternal-fetal Medicine, Saint Luke's Hospital. Dr. Grundy is Director of the department.

Pertinent information regarding these cases is presented in Tables 1 and 2. Of the six cases, two involved mothers with Rh-negative blood. However, no evidence of isoimmunization could be detected by antibody testing nor was there any evidence of the presence of fetal cells by Kleihauer-Betke tests. In all cases, the diagnosis of hydrops fetalis was made by ultrasonography between 24 and 34 weeks gestation and commonly in association with polyhydramnios.

One patient had varicella in early pregnancy. Since neonatal studies for varicella were not ordered, it remains speculative that this is an etiologic factor in this particular case.

No unifying pathophysiologic process can be found in these six cases. The pathologic condition is generally diffuse and nonspecific. Case #2 describes a definite lesion in the form of calcific mitral valve disease and cardiomegaly. A cardiac pathologic condition is also present in Case #5 (atrial septal defect), Case #4 (general cardiomegaly) and Case # 2 (myocardial calcifications). Hypoplasia of the lungs is a prominent feature of Case #1 and Case #6. Protein and albumin levels were low in Cases #1 and #3 (protein, 3.3 and 1.9 g/dl respectively, normals 6.5-8.0 g/dl; albumin 2.7 and 1.5 g/dl, normals 3.4-5.3 g/dl). These two cases also showed normal levels of IgM and IgA, but decreased levels of IgG (429 and 188 mg/dl respectively; normal 760-1633 mg/dl). Attempts to establish an infectious cause were unsuccessful in our series.

Nonimmune hydrops fetalis is not a solitary disease resulting from a single cause. It is a general physical finding that has been reported in association with a wide range of conditions as an extensive search of the literature demonstrates (Table 3).[1, 3-47] There is no common pathophysiology that unifies such a list. Hydrops fetalis would seem to be the end result of several processes, the most commonly suggested being increased capillary hydrostatic pressure (as from cardiac failure, decreased venous return, high output failure, anemia, hypervolemia, etc.); decreased plasma oncotic pressure (as from hypo-

TABLE 1
PREGNANCY CHARACTERISTICS AND ULTRASOUND FINDINGS

Case	*Maternal Age*	*Gravida*	*Para*	*Abortus*	*ABO Type*	*Rh*	*DU*	*Antibodies*	*Syphilis Serology*	*Complications of Pregnancy*	*Ultrasound Findings*
1	29	4	2	1	A	+		–	–	Multiple urinary tract infections treated with Keflex and Macrodantin Referred for fetal arrhythmia on auscultation	30 weeks — Fetal heart rate 120-160, no evidence of A-V dissociation 34 weeks — polyhydramnios, fetal ascites, scalp edema, thickened placenta, visible fetal liver
2	16	1	0	0	0	+		–	–	Poor prenatal care Urinary tract infection with pyelonephritis Threatened abortion at 15 weeks Chickenpox at 15 weeks	30 weeks — severe polyhydramnios fetal ascites, scalp edema, absent fetal cardiac motion
3	22	3	1	1	AB	–	–	–	–	Premature labor at 34 weeks	34 weeks — polyhydramnios fetal ascites, scalp edema ? pericardial effusion ? hypoplastic lungs
4	24	3	1	1	A	+		–	–	Abrupt cessation of fetal movements at 29 weeks	24 weeks — polyhydramnios fetal ascites, scalp edema 27 weeks — polyhydramnios fetal ascites, scalp edema essentially unchanged 29 weeks — severe ascites absent fetal cardiac motion
5	27	3	3	0	B	–	–	–	–	Abrupt cessation of fetal movements at 34 weeks Maternal fever during labor	34 weeks — fetal ascites, scalp edema, absence of fetal cardiac motion
6	23	2	0	1	A	+		–	–	Premature labor at 34 weeks with ruptured membranes	34 weeks by dates 30 weeks by fetal femur length and biparietal diameter fetal scalp edema, scant pulmonary tissue

proteinemia, renal disease, hepatic dysfunction); increased capillary permeability; altered water homeostasis; or combinations of all of the above.[6, 7, 48] Even so, a large number of cases remain idiopathic in origin.[3, 7-12]

The prognosis is poor for the fetus with hydrops. Many infants are stillborn and the course of those born alive is generally poor. Mortality ranges from 50% to as high as 98% in some series.[3, 5, 7, 8, 10] In the present collection of cases, three infants were stillborn, two died less than one hour after birth and the sole survivor as of this writing remains in critical condition in an intensive care nursery.

Since the cause of nonimmune fetal hydrops remains elusive and the condition is extremely serious for the fetus, good prenatal care is crucial in detecting the condition and the planning of its management. The best method for detecting hydrops fetalis in utero is ultrasonography. Patients in all six cases reported here were diagnosed in this manner; other series have reported similar rates of success.[3, 5, 9, 13]

The most consistent finding associated with hydrops feltalis is polyhydramnios. It is, therefore, suggested that all large-for-dates patients and those with associated risk factors (Table 3) should be scanned for this condition. When this problem is found, the patients should be observed carefully by repeat scanning at frequent intervals as the fetus approaches viability. Echocardiography holds the potential for detecting associated cardiac anomalies in utero.[19] Since the onset of polyhydramnios and the development of severe fetal hydrops may be quite rapid, patients at risk may need ultrasound studies as often as

TABLE 2
PREGNANCY OUTCOME

Case	*Age (Weeks)*	*Mode of Delivery*	*Apgars*	*Weight*	*Course, Outcome and Findings at Autopsy*
#1	34	Repeat cesarean section	0-1-1	2,438 gm	Grossly hydropic male infant with no spontaneous respiratory effort; Severe asphyxia at birth Kleihauer-Betke tests negative Blood cultures negative Decreased albumin and total protein Decreased IgG; expired 45 minutes after delivery Hyoplastic lungs, 150 ml. ascites, 50 ml. pleural fluid
#2	30	Induced vaginal delivery, assisted breech	0-0-0	775 gm	Stillborn macerated male infant Placenta grade II-III with numerous infarcts and old clot suggestive of abruptio placentae Hemiatrophy of right limbs; focal calcifications in heart, kidneys, adrenal Marked areas of calcification in the liver and lungs TORCH studies unremarkable Varicella studies were not ordered.
#3	34	Primary cesarean section for severe fetal hydrops	0-5-5	3,175 gm	Grossly hydropic male infant Cord blood A+, Coombs − Severe asphyxia at birth; expired 45 minutes later Decreased albumin and total protein Decreased IgG Large, pale, edematous placenta (800 gm.) with partially circumvallation, hydropic changes in chorionic villi Generalized cardiomegaly with calcific mitral valve stenosis; bilateral inguinal hernias Some hepatic erythropoeisis TORCH studies unremarkable
#4	29	Repeat cesarean section	0-0-0	1,956 gm	Stillborn hydropic female infant Placental weight 500 gm Cardiomegaly No obvious malformations
#5	34	Induced vaginal delivery for fetal demise	0-0-0	2,778 gm	Stillborn hydropic male infant Edematous placenta Kleihauer-Betke tests negative on mother Pleural effusions, ascites, atrial septal defect Placental cultures positive for *Staph. epidermidis, E. coli*, and *Lactobacillus sp.*
#6	30-34	Vaginal vertex with dystocia	1-3-5	2,098 gm	Female neonate delivered after tocolyis for 48 hours and 2 doses of betamethasone to induce fetal lung maturation Body dystocia at delivery due to gross hydrops Severe asphyxia at birth; intubated and placed on ventilator with 100% oxygen and high pressures Chest x-ray revealed large bilateral pleural effusions and small aerated lungs TORCH studies unremarkable Infant remains in intensive care nursery with multiple medical problems including seizures, hyperbilirubinemia, and blood cultures positive for *Staph. epidermidis* developed since birth

TABLE 3
CONDITIONS ASSOCIATED WITH NONIMMUNE HYDROPS FETALIS

- Cardiovascular
  - Bradyarrhythmias: Complete heart block
  - Tachyarrhythmias: Supraventricular tachycardia, PAT, atrial flutter
  - Calcific myocarditis
  - Endocardial fibroelastosis and mitral insufficiency
  - Calcific mitral stenosis
  - Uhl's anomaly, pulmonary atresia
  - Ebstein's anomaly
  - Subaortic stenosis
  - Premature closure of the foramen ovale
  - Premature closure of the ductus arteriosus
  - Truncus arteriosus
  - Atrioventricular canal
  - Pulmonary insufficiency
  - Cardiac neoplasms
  - Hypoplastic left heart syndrome
  - Complex congenital heart disease
  - Arteriovenous fistulas; eg., aneurysms of the Great Vein of Galen
  - Cystic hygroma
  - Hemangioendothelioma
  - Idiopathic arterial calcification
  - Inferior vena caval thrombosis
  - Myocardial infarction
- Pulmonary
  - Pulmonary hypoplasia; eg., diaphragmatic hernia
  - Cystic adenomatoid malformation of the lungs
  - Pulmonary hamartoma
  - Pulmonary lymphangiectasia
  - Tracheal stenosis
  - Tracheoesophageal fistula
- Renal and Genitourinary
  - Hypoplastic kidneys
  - Congenital nephrosis/nephrotic syndrome
  - Polycystic kidneys
  - Hydronephrosis/hydroureter
  - Renal vein thrombosis
  - Bladder neck obstruction
  - Urethral atresia
  - Multiple genitourinary abnormalities, including vaginal atresia, bifid uterus, hydrocolpos, hydrometrocolpos, urogenital sinus
- Hematologic
  - G-6-PD deficiency, especially involving maternal ingestion of drugs or fava beans
  - Alpha-thalassemia
  - Intrauterine DIC
  - Congenital leukemia
- Gastrointestinal
  - Cystic meconium peritonitis
  - Duodenal atresia/stenosis
  - Jejunal atresia
  - Cirrhosis and portal hypertension
  - Hepatic necrosis
  - Small bowel volvulus
- Neurological
  - Tuberous sclerosis
  - Intrauterine intracranial hemorrhage
  - Encephalocele
  - Porencephaly
  - Neuroblastoma
- Musculoskeletal
  - Achondrogenesis, Types I and II
  - Saldino-Noonan dwarfism
  - Asphyxiating thoracic dysplasia
  - Osteogenesis imperfecta
  - Sacrococcygeal teratoma
  - Mediastinal teratoma
- Infectious
  - Toxoplasmosis
  - Cytomegalovirus
  - Leptospirosis
  - Chagas' disease
  - Congenital hepatitis
  - Congenital syphilis
  - Congenital rubella
  - Coxsackie B3 virus
  - Ritter's disease (toxic epidermal necrolysis, *Staph. aureus*)
- Miscellaneous Conditions
  - Gaucher's disease
  - Retroperitoneal fibrosis
  - Parabiotic syndrome (twin to twin transfusion)
  - Twin pregnancy with "parasitic fetus"
  - Down's syndrome
  - Turner's syndrome
  - Trisomy E
  - Multiple miscellaneous congenital malformations
  - Prematurity
- Placental and Umbilical Cord Pathology
  - Chorioangioma of the placenta
  - Choriocarcinoma in situ
  - Chorionic vein thrombosis
  - Hyperplacentosis
  - Trans-placental feto-maternal hemorrhage
  - Umbilical vein thrombosis
  - Umbilical artery aneurysm
  - Single umbilical artery
  - Angiomyxoma of the umbilical cord
  - True knot in cord
- Maternal Disorders
  - Polyhydramnios
  - Pre-eclampsia/eclampsia
  - Maternal anemia
  - Diabetes mellitus
  - Theca-lutein cysts
- Idiopathic, and repetitive or familial

twice a week. Non-stress and contraction-stress testing to monitor fetal well-being should also be considered.

When fetal hydrops is documented by the presence of scalp edema, pleural effusions and ascites, consideration must be given to delivery of the fetus to avoid death in utero and to allow appropriate neonatal management. Aminocentesis allows fluid to be drawn for pulmonary maturity studies as well as for tests for isoimmunization and chromosomal karyotyping. Vaginal delivery of the hydropic infant may be difficult and potentially damaging to the mother and the fetus due to dystocia from the size of the anasarcous body. Cesarean section, therefore, should be considered.[5, 9]

The diagnostic work-up of the infant may include a complete blood count with platelets; Kleihauer-Betke studies on maternal blood; electrolytes; renal and liver function studies; blood type and Coombs (both direct and indirect); hemoglobin electrophoresis (particularly in Oriental patients suspected of having alpha-thalassemia); roentgenological skeletal surveys (especially in cases of congenital malformations); electrocardiography and echocardiography; bacterial and viral cultures or serological titres when appropriate; chromosome studies; and pathological examination of the placenta. The appropriate studies will depend on the clinical condition of each patient and the suspected cause, if any.[5, 8, 9]

Treatment of the neonate with hydrops fetalis is difficult and depends to a large degree on the associated pathologic conditions. Severe birth asphyxia is the rule for these patients and critical attention must be paid to their cardiorespiratory status. Delivery and subsequent care of the hydropic baby is best undertaken at a perinatal center by sophisticated obstetric and pediatric personnel and in a Level-III neonatal intensive care nursery.

We have no adequate explanation for the unusual number of patients seen at our institution in this short period of time. As improved care diminishes the perinatal mortality from a variety of causes, congenital malformations and conditions such as hydrops fetalis may be expected to make an increasingly large contribution to the percentage of infants who die in the perinatal period. Early diagnosis of this condition coupled with the development of improved referral networks for high-risk pregnancies and the increased utilization of tertiary perinatal centers should prove helpful in diminishing this cause of mortality as well.

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LAWRENCE DALL, M.D., *Kansas City*

Tuberculosis Today

Although the advent of effective therapy has improved the control of tuberculosis, it still remains a problem. Management of this disease requires an understanding of available therapeutic agents. The author explains these agents and offers recommendations for therapy.

Dr. Dall is from the University of Missouri-Kansas City School of Medicine.

TUBERCULOSIS was a major health problem until the advent of effective therapy. Since then, the disease has come under better control but remains a problem. During the last two decades, the number of reported cases has decreased by about 5% per year. In 1980, however, the reported cases actually increased by 0.3%.[1] The leveling off of this downward trend has continued over the past three years. The incidence of tuberculosis varies from country to country and the rate fluctuates from city to city in the United States. The average rate in this country is 12.3 cases per 100,000,[1] while the rate in San Francisco is 54.5 cases per 100,000. In 1980, 27,749[1] new cases of tuberculosis were diagnosed, with Kansas, Nebraska and Iowa reporting rates exceeding the 1979 case rate. The present national mortality from tuberculosis is about 1.4 per 100,000 with a resultant 2,968 fatalities in 1977.[2] Almost 50% of these deaths were not diagnosed during life. The main cause of death in children is meningitis while reactivation is the cause in adults (Table 1).[2]

Asian immigrants account for a large number of the increased incidence on the west coast. Of the refugees screened in San Francisco, about 65% had evidence of tubercular infection. Skin tests results were positive in 47%; there were abnormal chest x-rays in 17%; and active disease was found in 1.5 to 2.0%.

Management of tuberculosis requires an understanding of available therapeutic agents. The first modern breakthrough occurred in 1947 with the introduction of streptomycin and another advance occurred in 1952 when isoniazid became available. The ability to reduce and improve therapy occurred when rifampin was released in 1966[3] (Table 2).

If chemotherapy is not given for tuberculosis, about 40% of the patients die while 30% become carriers of the chronic disease. When individualized chemotherapy is not available, the mortality is about 10% and the carrier rate is about 25%. When individualized chemotherapy is employed, about 5% of the patients die and about 3% become chronic carriers (usually noncompliant patients). Absolute cure rates, therefore, occur in more than 90% of patients receiving individualized chemotherapy, in 67% of patients receiving mass chemotherapy, and in 33% of patients who received no chemotherapy.[4]

The tuberculosis bacillus has characteristics that make treatment unusual in the field of infectious disease. The organism is an obligate aerobe that multiplies rapidly in oxygen rich cavities and slowly in oxygen-poor caseous materials. The

TABLE I
RISK FACTORS FOR REACTIVATION OF TB

1. Old Age
2. Recent Infection
3. Malnutrition
4. Alcoholism
5. Pregnancy
6. Gastrectomy
7. Diabetes
8. Immunosuppression
9. Jejuno-ileal bypass
10. Uremia
11. Silicosis

TABLE 2
HISTORY OF DRUG THERAPY

1947—Streptomycin
1949—PAS (Para-Aminosalicylic Acid)
1952—Isoniazid
1954—Pyrazinamide
1957—Cycloserine
1959—Ethionamide
1960—Capreomycin
1961—Ethambutol
1966—Rifampin

TABLE 3
GENETIC DRUG RESISTANCE[4]

Drug	*Rate of Mutation*
Isoniazid	1: 10^5-10^6
Ethambutal	1: 10^5-10^6
Streptomycin	1: 10^5-10^6
Rifampin	1: 10^7-10^8

TABLE 4
PRIMARY ISONIAZID RESISTANCE[5]

Caucasian	2.8%
Black	3.3%
Asian	8.5%
Hispanic	8.0%

TABLE 5
PRIMARY RESISTANCE TO ONE OR MORE DRUGS[6]

White	5.2%
Black	6.0%
Asian	12.7%
Hispanic	12.6%

organism grows slowly, with a mean replication time of about 20 hours. This rate accounts for the long duration of chemotherapy needed compared to that required for most infectious diseases caused by rapidly multiplying bacteria.

The organism undergoes a high rate of mutation to drug resistant forms, and the rationale for multiple drug regimens is the presence of drug-resistant mutants in wild strains of the bacillus (Table 3). For example, isoniazid resistance is present in varying degrees in different populations with rates of 8.5% and 8.0% respectively in the Asian and Hispanic populations but only 3.3% and 2.8% in the black and white populations.[5] Primary resistance to one or more drugs exists in about 5% of the white population (Tables 4 & 5).[6]

BASIS FOR SHORT-COURSE CHEMOTHERAPY

Due to the above factors, traditional therapy has consisted of multiple drug regimens for a period of 18 to 24 months (Table 6). The goal of short-course chemotherapy is to prevent both failure and relapse and to achieve complete sterilization in the shortest possible time. At present, nine-month regimens for pulmonary tuberculous are available and six-month therapy is being considered.

To achieve rapid sterilization and prevent relapse, certain objectives must be met. The first is to convert the sputum to negative as quickly as possible by giving two or more bactericidal drugs. Therapy must avoid selection of resistant forms. The organisms initially affected by chemotherapy are the rapidly multiplying organisms. The size of this population is large (10^8-10^9 organisms).[7] To avoid resistance, multiple drugs to which the bacilli are sensitive must be utilized.

The last objective is to avoid relapse. The organisms that cause relapse do not actively multiply and are not numerous. However, they are less affected by antituberculous drugs and, to prevent relapse, it is necessary to give prolonged treatment.

For therapy to be effective, three populations of the mycobacterium must be treated: the actively multiplying organisms, the intermittently multiplying organisms, and the intracellular organisms. In vitro data show the activities of the main anti-tuberculous drugs against these different populations. Streptomycin is the most bactericidal against the actively multiplying organisms. The next are isoniazid and rifampin. Ethambutol is a bacteriostatic agent and pyrazinamide has no effect on this population. The organisms that grow intermittently, which are the cause of relapse, are affected only by rifampin. Pyrazinamide has the greatest effect on the organisms that are intracellular, followed by isoniazid and rifampin.

Most of the in vivo animal studies have been done at the Pasteur Institute in Paris where the effectiveness of antituberculous drugs to sterilize cultures has been examined. With the combination of isoniazid and rifampin, 100% of the animals were culture-negative at the end of six months while 20% were culture-positive after 18 months of isoniazid and streptomycin treatments. These experiments indicate that rifampin should be used in short-course chemotherapy regimen for early sterilization. The relapse rate was 75% using 18 months of isoniazid and streptomycin. When isoniazid was combined with rifampin for six months the relapse rate was 20%. After using isoniazid for nine months and rifampin for six months, the relapse rate was still an unacceptable 20%. When a total of nine months of rifampin and nine months of isoniazid was used, however, no relapses occurred.[7]

RECOMMENDATIONS FOR SHORT-COURSE CHEMOTHERAPY

With these impressive in vivo results, short-course chemotherapy was used in various clinical trials and found to be 99% effective with a relapse rate of less than 1%.[8-11]

The American Thoracic Society now makes the following recommendations for short-course chemotherapy:[12]

1. Isoniazid and rifampin given for a minimum of nine months is an acceptable alternative to longer, more conventional antituberculous therapy. Not enough evidence is presently available to recommend this short-course therapy for extrapulmonary tuberculosis.
2. Hospitalization is unnecessary if compliance is good and there are no complicating factors.
3. Treatment should be initiated with isoniazid and rifampin. Ethambutol should be used if there is a question of possible drug resistance, and drug susceptibilities of the organisms should be obtained. If no resistance exists, ethambutol can be dropped.
4. Treatment should be continued for at least nine months. Therapy should continue for at least six months after the conversion of the sputum culture to negative. Approximately 90% of patients convert their sputum to negative after three months, so total duration of treatment is usually nine months.
5. Patients should be observed for 12 months after the successful completion of therapy.

Six-Month Therapy

Because of success with the nine-month isoniazid-rifampin regimen, investigation of six-month therapy is underway. Pyrazinamide has the greatest activity of the antituberculous drugs against intracellular bacilli in vivo. Therefore, the addition of pyrazinamide to isoniazid and rifampin during early treatment may reduce treatment to the shorter period. With this regimen, initial

TABLE 6
SUMMARY OF ANTITUBERCULOSIS DRUGS

Drug	*Dose*	*(Wholesale) Cost per Year*	*Relative Effectiveness*	*Principle Toxicity*
Isoniazid	300 mgld	$7.30	100	Liver CNS Neuropathy Skin
Rifampin	600 mgld	292	100	Liver Bone Marrow Skin Kidney
Ethambutol	15 mg/kgld	146	3	Eye Hyperurieomia Skin
Streptomycin	15 mg/kgld	146	10	8th nerve Skin
Pyrazinumide	25 mg/kgld	383	10	Liver Hyperuricemia GI upset
PAS	150 mg/kgld	197	3	GI Liver Skin
Ethionamide	15-30 mg/kgld	288	3	GI Liver Hypotension Depression
Cycloserine	15 mg/kgld	598	5-10	CNS Fever Skin
Capreomycin	15-20 mg/kgld	1781	10	Kidney Skin Ear

From Tuberculosis Clinic, San Francisco General Hospital.

results show effectiveness to be approximately 98% and the relapse rate to be less than 2%.[13] Further studies are now ongoing, and this therapy is presently used only on a research basis.

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(Continued from page 694)

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In Memoriam

Sidney W. Scorse, M.D., Neosho, R #1 64850; graduate of the University of Cincinnati; 1932; member of Jasper County Medical Society; age 77; died Aug. 18, 1983.

Gregory Steiner, M.D., 120 Main, LaGrange 63448; graduate of the University of Missouri-Columbia, 1974; member of Northeast Medical Society; age 35; died Sept. 11, 1983.

Arthur G. Asher, M.D., 510 Shamrock Dr., Lee's Summit 64063; graduate of Rush Medical College of the University of Chicago, 1921; member of Jackson County Medical Society; age 88; died Sept. 16, 1983.

Haywood R. Jackson, M.D., 3317 E. 43rd, Kansas City 64130; graduate of the University of Kansas, 1958; member of Jackson County Medical Society; age 53; died Sept. 17, 1983.

Louis P. McCann, M.D., 920 W. Cherry, Nevada; graduate of St. Louis University, 1951; member of West Central Medical Society; age 63; died Sept. 25, 1983.

Kevin C. Morrin, M.D., 5251 Westminster Pl., St. Louis 63108; graduate of National University in Dublin, 1921; member of St. Louis Metropolitan Medical Society; age 85; died Sept. 26, 1983.

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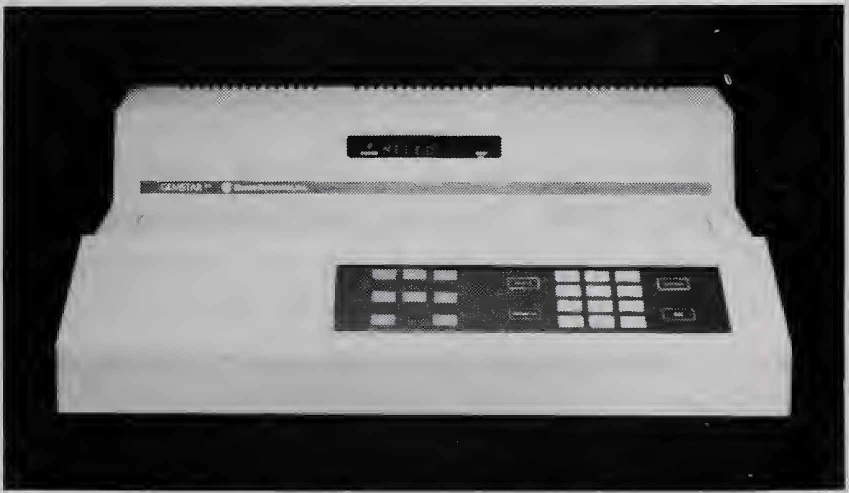

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President's Message

The Syndrome of the Technical Fix*

Whether examining a plant, a picture or a person, your perspective influences your understanding. Supposedly, persons react as though what they understood were true; does the converse hold true?

The government of the United States and the AMA desire optimal medical care for every citizen. I recall being a bit perplexed a few years ago with the development of Regional Medical Centers, which I understood were established to bring the great advances of medical care to the local community. These great advances were to include the management of cancer, stroke and heart disease. At the time, I wondered what great secrets were being held by the major institutions that were not already available to the local community. Despite significant technical advances through the years, it seems that the management of these problems is not very satisfactory. Now the politics favor referral of any such complex patients to the larger institutions in the metropolis. With this plethora of incomplete information from outsiders, what is best for your patient?

Ronald A. Youmans, M.D.

It is difficult to keep a proper perspective. A year ago, seven deaths resulted from cyanide-contaminated medication, and the country reacted with shocked horror. During that same week, 980 persons died in highway accidents, about half of which involved the use of alcoholic beverages. That doesn't include the 77,000 persons with a significant injury that week from highway accidents or the fact that 10,000 paraplegics are created each year with ongoing disability, anguish, handicap and continuing medical expense.

All Americans are concerned about the high incidence of cancer. With cancer of the lung being one of the more common cancers, the statistics suggest that one third of all cancers are probably related to the use of tobacco.

The vascular physiologists have a new armamentarium for diagnosing and managing specific vascular lesions, but probably none of their management is as important as the old adages of appropriate body weight, blood pressure control and a regular daily exercise program.

When problems are complex, complex solutions are often sought. Each introduces more complex problems that become expensive and uncomfortable but still do not provide satisfactory resolutions. This introduces the complexities of the Technical Fix.

Of course, I can share the concerns regarding the great unsolved problems. There certainly are thousands of people who suffer anguish unnecessarily. We should also do what we are capable of doing, and control those factors that may possibly be within our direct control, based on moderation and reasonably balanced living. Prevent accidents, burns and poisoning within the home. Develop defensive driving habits; use restraining seats for young passengers as well as adults. Avoid alcohol and tobacco. The message is simple. It does not entail massive research surveys or even therapeutic, federally-subsidized hospital networks. There is a very basic premise that many competent physicians overlook. The importance of patient education and patient responsibility for their personal care cannot be overemphasized. Yes, doctor, you too are a potential patient, and the problems of the Technical Fix are ever before us.

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* JAMA 10-14-83 250, pages 1857-9.

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MSMA Auxiliary

Do You Know . . .

Mrs. Donald Sanders

. . . that adults need ten to 15 years to develop an addiction to alcohol while *teenagers* can become alcoholics within a year?

I would like to share with you some facts about drunk driving and some strategies being used by states in implementing public awareness and participation in drunk driving programs.

Drinking Driver Public Information Strategies

- Make drivers aware of enforcement efforts.
- Make drivers aware of statistics, facts and other cognitive information.
- Make drivers aware of the mental and physiological effects that alcohol has on vision, reaction time and judgement and how it relates to a person's ability to drive.
- Make drivers aware of community support for comprehensive programs and a political base for increased countermeasure activity.
- Make drivers aware of personal loss experienced by victims of drunk driving crashes.
- Make drivers aware of the arrest experience.
- Make drivers aware of court sanctions and costs associated with drunk driving convictions.
- Make parents and young adults aware of their role in solving the drunk driving problem.
- Make the general public aware of intervention techniques.
- Make drivers and the general public aware of self-monitoring and planning prevention techniques.
- Make drivers aware of efforts by diagnosis, information and referral, education and treatment agencies.
- Make drivers, the general public and countermeasure personnel aware of progress made toward solving the problem.

FACTS: In the last decade, a quarter of a million Americans have been killed by drunk drivers or more than four times the number killed during U.S. involvement in Vietnam.

Drunk driving is the number one killer of young men and women in their teens and twenties.

Automobile accidents kill more people under 40 than either heart disease or cancer.

One of every two deaths on our highways is alcohol-related.

That one beer (12 oz., 4% alcohol) equals one glass of wine (4 oz., 12% alcohol) equals one shot of hard liquor (1 oz., 50% 100 proof alcohol).

The problem involving societal and personal attitudes toward alcohol use is complex.

BUT THE SOLUTION IS SIMPLE — DON'T DRINK AND DRIVE.

The above information is from a seminar held during the AMA Auxiliary Annual Confluence in Chicago on October 11, 1983 by James J. Onder of Professional Managements Associates, Inc. (Resource Center/Technical Assistance Project under contract to the National Highway Traffic Safety Administration) and from an AMA Auxiliary brochure entitled "Drinking and Driving."

MSMA Members Receive Physician's Recognition Award

Eighty MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the period of September, 1983.

The award is a voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in Missouri Medicine as they are received from the AMA.

Sandra J. Ahlum, Hannibal
Herbert C. Bastow, Columbia
Barbara A. Batts, Kansas City
William F. Benson, Kansas City
Jacques D. Blackman, Higginsville
John J. Bonacorsi, Bridgeton
Stephen F. Bowen, St. Louis
Menzie H. Brown, Kansas City
Arne E. Carlson, Bridgeton
David W. Chapman, Independence
Francis H. Corcoran, Joplin
Joseph A. Costrino, St. Louis
Mark S. Cotner, Joplin
James E. Crockett, Kansas City
Enrique Cubillo, St. Louis
M. Desmond Curran, Kansas City
Edward W. Czebrinski, St. Louis
Dale E. Darnell, Kansas City
Herbert A. Dempsey, Lee's Summit
George F. Duensing, Springfield
Dennis A. Dusek, St. Louis
Charles D. Ettelson, St. Louis
William L. Fair, Chillicothe
James F. Fairchild, Perryville
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John F. Ferguson, Springfield
James G. Fitzsimmons, Kansas City
David A. Fleming, Moberly
Marvin L. Fowler, West Plains
Roger A. Francis, Osage Beach
Richard A. Fraser, Poplar Bluff
Elwyn M. Grimes, Kansas City
Harry D. Haas, Kansas City
Frederick W. Hahn, Kansas City
David J. Harris, Kansas City
Lucien W. Ide, St. Joseph
John W. Irvine, Raytown
Gregory Janeczko, Springfield
Bedford F. Knipschild, Marshall
Kenneth C. Kreski, House Springs
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Theodore L. Sandow, Kansas City
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Dan T. Sullivan, Springfield
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Jose R. Thomas-Richards, Kansas City
Jack C. Tippett, St. Louis
Lewis C. Vollmar, St. Louis
Ambrose T. Walker, Thayer
Thomas J. Weiler, St. Louis
Nelson P. H. White, Jefferson City
Jack N. Wiles, West Plains
George M. Workman, Hermann
Charles A. Worley, Sweet Springs
Anthony C. Zoffuto, Cape Girardeau

NEWS About CME Events

> *The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in* MISSOURI MEDICINE. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

Menorah Medical Center
4949 Rockhill Rd., Kansas City 64110
(816) 276-8000
Contact: **Erich W. Pollak, M.D., Director of Surgical Education, for the following:**

4:00 PM — Basic Sciences to Surgery Seminar
(Monday through Friday)
3:00 PM — Surgical Rounds
(Every Wednesday and Friday)
4:00 PM — Surgical Techniques Seminar
(Every second and fourth Wednesday)
4:45 PM — Morbidity and Mortality Conference
(Every fourth Wednesday)
8:00 AM — Morbidity and Mortality Conference
(Every second Saturday)
7:00 AM — Surgical Grand Rounds
(First and third Thursdays)

Contact: **David S. Sneid, M.D., Director of Medical Education, for the following:**

9:00 AM — Medicine Staff Conference
(First, third and fourth Tuesdays)

University of Missouri-Columbia School of Medicine
Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
Contact: **William D. Bradshaw, M.D., Director**

Dec. 7-9	Advances in Trauma (Westin Crown Center, Kansas City)

B.A.S.H., Inc.
522 N. New Ballas Rd., Suite 206
St. Louis 63141
(314) 567-4080
Contact: **Felix E. F. Larocca, M.D.**

(1984)	
Apr. 28	Second Bash Conference on Eating Disorders (Saint John's Mercy Medical Center)

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3853
Contact: **Loretta Giacoletto, Office of CME**

Nov. 28	New Developments in Infectious Diseases
Dec. 9-10	Low Back Pain
(1984)	
Jan. 8-13	Postgraduate Course in Obstetrics and Gynecology (Keystone, Colo.)
Feb. 9	St. Luke's Clinical Conference (St. Luke's West)
Feb. 11-18	WUMC Annual Clinical Conference (Kona, Hawaii)
Feb. 16-17	Techniques and Technology in Pulmonary Intensive Care
Feb. 25-Mar. 3	Care of the Aging Patient (Hawaiian Islands Cruise)
Mar. 5-May 21	Internal Medicine Review (The Jewish Hospital)
Mar. 16-17	Craniofacial Imaging
Apr. 26-27	Care of the Aging Patient

University of Missouri-Columbia School of Medicine
Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
Contact: **William D. Bradshaw, M.D., Director**

Dec. 7-9	Advances in Trauma (Westin Crown Center, Kansas City)

The Edward Mallinckrodt Institute of Radiology — Washington University School of Medicine
510 S. Kingshighway, St. Louis 63110
(314) 367-2131
Contact: **Ronald G. Evens, M.D., Director**

Dec. 12	City-Wide Radiology Conference on "Advanced Imaging of the Brain and Spine"
(1984)	
Jan. 9	City-Wide Radiology Conference (St. Louis University)
Feb. 6	City-Wide Radiology Conference on "CT Chest"
Mar. 12	City-Wide Radiology Conference on "NMR"
Apr. 25	Leroy Sante Lecture (St. Louis University)
May 14	City-Wide Radiology Conference on "Angiography and Embolization of Pelvic and Extremity Trauma" (Mallinckrodt Institute, St. Louis)

(Continued on next page)

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
Contact: Alta Bingham

Dec. 8-10	The Heart 1983 (Alameda Plaza Hotel)
(1984)	
Jan. 14-21	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Steamboat Springs, Colo.)
Feb. 11-18	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Puerto Vallarta, Mex.)
Feb. 24-25	The Long Weekend (Westin Crown Center Hotel)
Mar. 15-16	Critical Care (Alameda Plaza Hotel)
Mar. 17-24	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Breckenridge, Colo.)
Apr. 12-14	Update in Obstetrics-Gynecology (Alameda Plaza Hotel)
May 10-11	Surgical Problems — The Old and The New (Westin Crown Center Hotel)
May 18-19	The Long Weekend (Alameda Plaza Hotel)
June 2	Symposium on Physical Fitness (Hyatt Regency Hotel)
July 27-29	Internal Medicine Update — 1984 (Tan-Tar-A Resort, Osage Beach)

Please Note!
Most Common Errors to Avoid When Submitting Manuscripts
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____ (1) Failure to send original typed manuscripts plus one copy.
____ (2) Failure to double-space entire manuscript (abstract, references, legends, and tables).
____ (3) References not in proper format, not in numerical order, or not cited in text.
____ (4) Use of 1½-spacing rather than double-spacing. Do not justify lines.
____ (5) Failure to send two sets of illustrations/photographs.
____ (6) Title too long.
____ (7) Failure to label abstract or to provide brief abstract.
____ (8) Incomplete or improper consent forms for patient photographs, improper legends.
____ (9) Failure to include copyright transmittal letter.
____ (10) Failure to include all authors' personal signatures on copyright transfer letter.
____ (11) Failure to designate the corresponding author and provide phone number and address.
____ (12) Failure to get consent forms for illustrations previously published elsewhere.

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Use in treating lower respiratory tract symptoms, including asthma, is contraindicated.
WARNINGS: Caution patients about activities requiring alertness (e.g., operating vehicles or machinery). Antihistamines are more likely to cause dizziness, sedation, and hypotension in elderly patients. Patients should also be warned about the possible additive effects of alcohol and other CNS depressants.
Usage in pregnancy: Safe use in pregnancy has not been established. Use only when the potential benefits have been weighed against the possible hazards to the mother and child. Note that an inhibitory effect on lactation may occur.
PRECAUTIONS: Use with caution in patients with a history of bronchial asthma, increased intraocular pressure, hyperthyroidism, cardiovascular disease, hypertension, hiatal hernia with reflux esophagitis, intestinal atony of the elderly or debilitated intestinal obstruction, myasthenia gravis, renal function impairment, and ulcerative colitis (severe).
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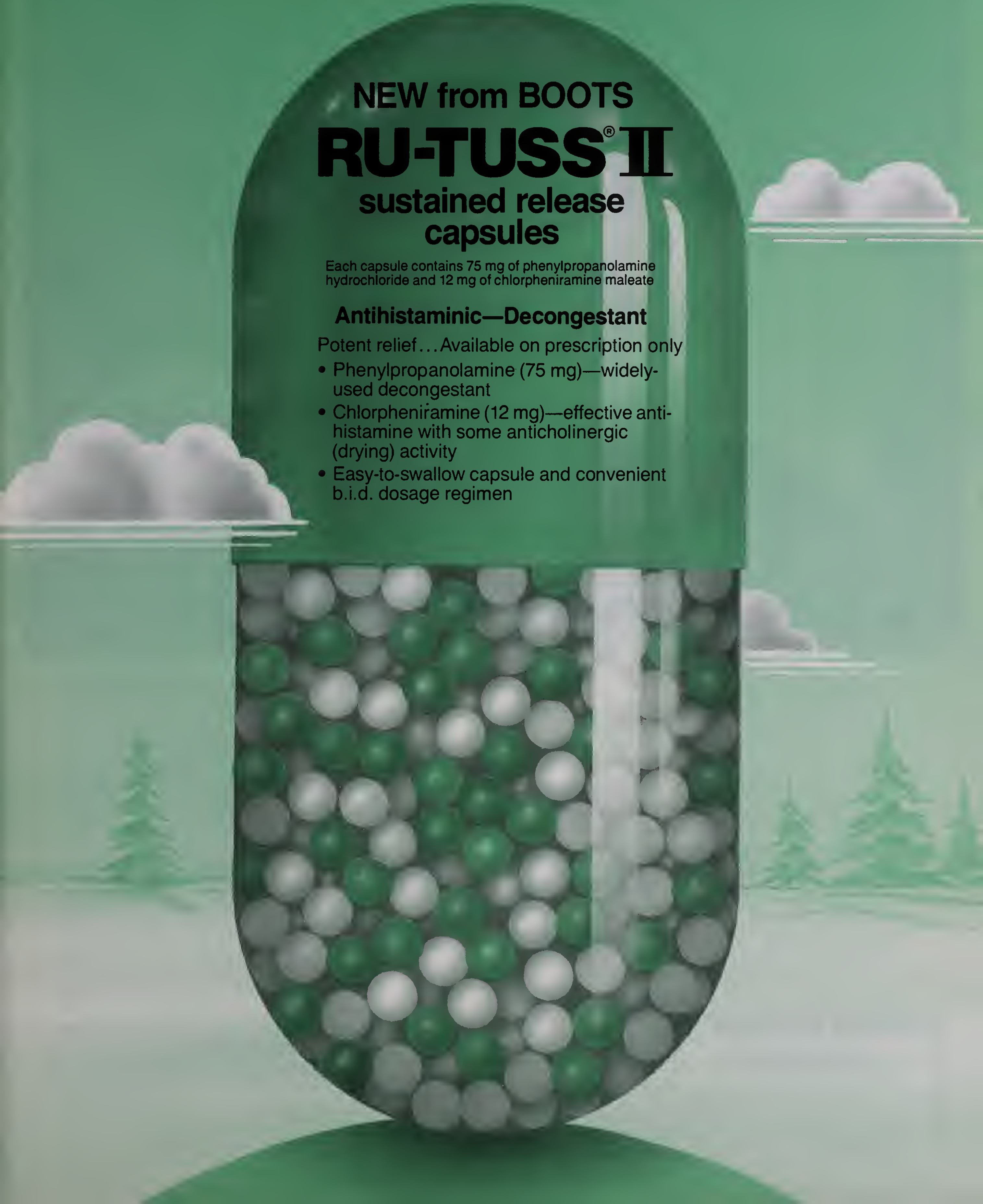

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Introducing Our New MSMA Members

Dixie J. Aronberg, M.D., 510 S. Kingshighway, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Aronberg is a native of Washington (Mo.), received her preliminary education at Hendrix College and her M.D. degree at Washington University in 1971. She specializes in radiology.

Thomas J. Cooper, M.D., 820 Jefferson, Fulton 65251, has become a member of Callaway County Medical Society. Dr. Cooper is a native of Hayti, (Mo.), received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1978. He specializes in family practice.

Robert M. Huster, M.D., 1100 W. 10th, Rolla 65401, has become a member of Mid-Missouri Medical Society. Dr. Huster is a native of St. Louis, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1978. He specializes in obstetrics and gynecology.

Keith Jantz, M.D., 6420 Prospect, Suite T101, Kansas City 64132, has become a member of Jackson County Medical Society. Dr. Jantz is a native of Newton, Kan., received his preliminary education at the University of Chicago and his M.D. degree at the University of Chicago in 1974. He specializes in internal medicine.

Beverly L. Ketel, M.D., 2411 Holmes Rd., Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Ketel is a native of Eugene, Ore., received her preliminary education at the University of Chicago and her M.D. degree at the University of Chicago in 1974. She specializes in general surgery.

Brian N. Kilpatrick, M.D., 1402 S. Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Kilpatrick is a native of Manchester, Conn., received his preliminary education at Eastern Nazarene College and his M.D. degree at Oral Roberts University in 1983. He specializes in internal medicine and pediatrics.

Patrick F. Leary, D.O., 106 W. 3rd, Lawson 64062, has become a member of Clay-Platte County Medical Society. Dr. Leary is a native of Ohio, received his preliminary education at the University of Notre Dame and his D.O. degree at the Kansas City College of Osteopathy and Surgery in 1981. He specializes in family practice.

Albert W. Marchiando, M.D., 205 Elm, Washington 63090, has become a member of Franklin-Gasconade-Warren Medical Society. Dr. Marchiando is a native of Bath, Me., received his preliminary education at the University of Illinois and his M.D. degree at the University of Illinois in 1978. He specializes in otolaryngology.

Richard E. Nelson, M.D., 4400 Wornall Rd., Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Nelson is a native of Canton, S.D., received his preliminary education at Augustana College and his M.D. degree at Baylor College of Medicine in 1977. He specializes in anesthesiology.

Stephen L. Piercy, M.D., 1402 S. Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Piercy is a native of Princeton, Ind., received his preliminary education at the University of Illinois and his M.D. degree at Washington University in 1979. He specializes in urology.

John R. Reinhardt, M.D., 2929 Baltimore, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Reinhardt is a native of Kansas City, received his preliminary education at St. Louis University and his M.D. degree at Northwestern University in 1976. He specializes in thoracic surgery.

William R. Rooney, M.D., 119 W. 99th Terr., Kansas City 64114, has become a member of Jackson County Medical Society. Dr. Rooney is a native of Nevada (Mo.), received his baccalaureate and M.D. degrees from the University of Missouri-Kansas City in 1981. He specializes in family practice.

Robert F. Sacha, D.O., 35 Doctor's Park, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Sacha is a native of Illinois, received his preliminary education at Purdue University and his D.O. degree at Chicago College of Osteopathic Medicine in 1975. He specializes in allergy/clinical immunology.

Keith G. Saxon, M.D., 977 Northwyck, Liberty 64068, has become a member of Clay County Medical Society. Dr. Saxon is a native of Michigan, received his preliminary education at the University of Texas and his M.D. degree at the University of Texas in 1977. He specializes in otolaryngology.

Steve J. Schwab, M.D., 9050 Crestmoor, Crest-

(Continued on next page)

wood 63126, has become a member of St. Louis Metropolitan Medical Society. Dr. Schwab is a native of Cape Girardeau, received his preliminary education at Southeast Missouri State University and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in internal medicine.

Linda E. Seeck, M.D., 1182 S. Jefferson, Washington, has become a member of Franklin-Gasconade-Warren Medical Society. Dr. Seeck is a native of St. Louis, received her preliminary education at St. Louis University and her M.D. degree at the University of Missouri-Columbia in 1979. She specializes in obstetrics and gynecology.

John R. Siddoway, M.D., 1325 Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Siddoway is a native of Washington, D.C., received his preliminary education at the University of Utah and his M.D. degree at the University of Utah in 1979. He specializes in otolaryngology.

David Smuckler, M.D., 7731 Gannon Ave., St. Louis 63130, has become a member of St. Louis Metropolitan Medical Society. Dr. Smuckler is a native of Illinois, received his preliminary education at Georgetown University and his M.D. degree at Georgetown University in 1978. He specializes in internal medicine.

John F. Spernoga, M.D., 1035 Bellevue, #306, St. Louis 63117, has become a member of St. Louis Metropolitan Medical Society. Dr. Spernoga is a native of Ohio, received his preliminary education at the University of Notre Dame and his M.D. degree at St. Louis University in 1967. He specializes in internal medicine.

Robert Steinberger, M.D., 800 E. 5th, Washington 63090, has become a member of Franklin-Gasconade-Warren Medical Society. Mr. Steinberger is a native of Michigan, received his preliminary education at Wayne State University and his M.D. degree at Wayne State University in 1966. He specializes in orthopaedics.

New Student Members

St. Louis University

Glen Fenton
Patrick F. Garrett
Laurence J. Kinsella

University of Missouri-Columbia

Anthony W. Buten
James D. Dollar
Stacy A. Farnham
John A. Flynn
Francis L. Kane
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Valium® (diazepam/Roche) ⒸIV Tablets
Valrelease™ (diazepam/Roche) ⒸIV slow-release Capsules
Injectable Valium® (diazepam/Roche) ⒸIV

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome. *Oral forms* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures; tetanus; anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

> ***Usage in Pregnancy:*** **Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

ORAL. Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE. *To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used I.V.: inject slowly, taking at least one minute for each 5 mg (1 ml) given; do not use small veins,* i.e., *dorsum of hand or wrist, use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Injectable Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of diazepam, *i.e.*, phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE. Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE. Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia.

In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL: *Adults:* Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche) tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease capsules (15 to 30 mg) daily. Acute alcohol withdrawal—tablets, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 capsules (30 mg) the first 24 hours, then 1 capsule (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—tablets, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily. Adjunctively in convulsive disorders—tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily.

Geriatric or debilitated patients: Tablets—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children: Tablets—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose (not for use in children under 6 months)

INJECTABLE. Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.)

For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., *dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children *administer I.V. slowly*; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg adult dose administered slowly, repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. Infants (over 30 days) and children (under 5 years), 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). Children 5 years plus, 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levarterenol or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules—15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

INJECTABLE: Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.

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NEWS From the Medical Schools

ST. LOUIS UNIVERSITY

Thomas C. Westfall, Ph.D., professor and chairman, Department of Pharmacology, has received two grants totaling $414,900 for the study of the effect of nicotine on the brain and how a better understanding of dopamine autoreceptors in the brain could lead to new ways to treat schizophrenia, Huntington's Disease and other diseases.

A grant of $225,077 for three years is from the National Institute on Drug Abuse. The study, entitled "Acute and Chronic Nicotine on Brain Amine Release," will focus on the mechanism by which nicotine produces a release of neurotransmitters and will examine the effects of long-term use of nicotine on the central nervous system.

The other three-year grant for $189,823 is from the National Institutes of Neurological and Communicative Disorders and Stroke. Entitled "Receptor Mediated Control of Monoamine Transmission," this study could aid in the treatment of diseases when an overactivity of central dopamine could be a cause of the condition.

Terry Moore, M.D., associate professor, departments of internal medicine and pediatrics-adolescent medicine, has received two grants to continue his studies on juvenile arthritis.

The National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases awarded him a five-year Research Career Development Award for $180,000 and the National Easter Seal Society gave him a three-year $45,000 grant.

Through his work with abnormal blood proteins, Dr. Moore has been able to improve the diagnosis of children with juvenile arthritis. In addition, he will study genetic markers on chromosomes of siblings and parents of children with juvenile arthritis to better understand its hereditary basis.

William Argetsinger has been appointed coordinator of athletic medicine in the Department of Orthopedic Surgery and head trainer for all St. Louis University athletic teams.

Mr. Argetsinger was assistant athletic trainer at Cornell University where he was responsible for the prevention and care of athletic injuries for a large coeducational sports program. At the School of Medicine, he will help in the management of athletic injuries, conduct clinical research, give lectures and conduct seminars about training and sports-related injuries. He is a certified member of the National Athletic Trainers Association.

Dr. Westfall

Dr. Moore

UNIVERSITY OF MISSOURI-KANSAS CITY

Stephen C. Hamburger, M.D., professor and chairman of the Department of Medicine at Truman Medical Center (TMC), the primary adult teaching hospital for the UMKC School of Medicine, has been named "Young Internist" of 1983 by the American Society of Internal Medicine (ASIM).

In presenting the award to Dr. Hamburger at the Society's 72th annual meeting in San Francisco, ASIM President *Monte Malach*, M.D., noted the "double life of Stephen C. Hamburger, whose numerous contributions — to education and clinical endocrinology and to the socioeconomics of medicine through involvement in medical organizations — sounds like those of two individuals, not one."

Dr. Hamburger joined the School of Medicine faculty in 1977 as an assistant professor. He had been project director for the Western Missouri Area Health Education Center and director of the internal medicine residency program at TMC since 1980. In 1981, he was named a senior docent and served as chairman of the Council of Docents.

Dr. Hamburger's involvement in medical affairs does not end at the university level. He is on the editorial boards of *The Diabetes Educator*, *Critical Care Quarterly*, *Topics in Emergency Medicine* and MISSOURI MEDICINE. He began his term as president-elect of the Missouri Society of Internal Medicine in October.

Dr. Charles B. Wilkinson's article, "Aftermath of a Disaster: The Collapse of the Hyatt Regency Hotel Skywalks," has recently been published in the *American Journal of Psychiatry*. Dr. Wilkinson obtained data for the study by interviewing 102 people who were injured victims, guests of the hotel or persons involved in rescue work. He plans to conduct a repeat study with several of the same subjects to determine longevity of his findings. Dr. Wilkinson is associate dean at the School of Medicine and is director of the Greater Kansas City Mental Health Foundation.

Richardson K. Noback, M.D., professor and docent, presented numerous papers on a trip to Australia and New Zealand. His topics included "The Docent System of Care and Education," "Care of the Elderly," "The Shepherd Center: Older Volunteers Helping Their Colleagues," "Geriatric Medical Education in the United States" and round-table discussions with faculty and students at the medical schools of the University of Adelaide and Flinders University. He also made presentations as several hospitals in both countries.

As a newly designated fellow of the Division of Counseling Psychology, *Bernard Lubin*, Ph.D., professor of medicine and psychology, presented an invited address at a recent meeting of the American Psychological Association in California.

George D. Lundberg, M.D., editor-in-chief of the *Journal of the American Medical Association* (JAMA), was the featured speaker at the School of Medicine's sixth annual convocation on October 23. The welcoming ceremonies for Year-1 students and their families were held in Spencer Theatre of the Performing Arts Center on UMKC's Volker Campus.

Kenneth D. Fine, Year-4 medical student, is the 1983 recipient of the John Hunter Award in Anatomy. Mr. Fine, a resident of St. Louis, recorded the highest score in the Chairman's Anatomy Examination, a two-part test given to all 100 Year-3 students. It is similar to the National Boards examinations.

UNIVERSITY OF MISSOURI-COLUMBIA

The 1983-1984 Guhleman Award for Clinical Excellence has been presented to *Dr. Arshad Husain*, professor of psychiatry. The award is presented each year to a faculty member for outstanding service as a clinician-teacher in keeping with the tradition set by *Dr. Henry Guhleman* of Jefferson City.

Established in 1981 by the Department of Psychiatry, the award honors Dr. Guhleman, now a clinical professor of psychiatry, who has been a member of the faculty for more than 30 years. The recipient of the award is selected by the department's medical practice group.

Dr. Husain, a child psychiatrist, currently has in press books on depression in children and on suicide among children and teenagers. Recently, much of his research work has focused on sexual abuse of children and adolescents.

Carl Marienfeld, M.D., M.P.H., director of the Environmental Health Surveillance Center and professor of family and community medicine, retired on August 31. He joined the faculty in 1961. Dr. Marienfeld was director of the Missouri Crippled Children's service for five years, a consultant for the Missouri Cancer Control program and, since 1978, a member of the Governor's Advisory Committee on Public Drinking Water. He has been active in a wide variety of professional societies and service organizations as well as an active researcher who has more than 36 publications to his credit.

Dr. Hans Mauksch, Ph.D., professor of family and community medicine and sociology, also retired on August 31. Dr. Mauksch joined the faculty in 1968. From 1969 to 1975, he was chief of the School of Medicine's behavioral sciences section. From 1975 to 1977, he was executive officer for the American Sociological Association while on leave from UMC. The author of more than 36 papers, Dr. Mauksch received the American Sociological Association's 1981 award for Distinguished Contributions to Teaching.

Dr. Clark Watts, professor of surgery and chief of the Division of Neurological Surgery, began the second year of a two-year term as president-elect of the Association for the Advancement of Medical Instrumentation (AAMI) at the 18th Annual Meeting in Dallas, Tex. recently. He will assume the presidency of AAMI in May, 1984.

At the meeting, Dr. Watts and *Don York*, Ph.D., presented a paper entitled "Relationship Between Visual Cortical Evoked Potentials and Intracranial Pressure."

Dr. Watts and *H. Dean Keith*, Ph.D., associate professor of mechanical engineering at the University of Missouri-Rolla, presented a paper entitled "Testing Cerebrospinal Fluid Shunt Systems Under Dynamic Flow Conditions."

Jerry Gold, Ph.D., a former member of the Department of Surgery who retired last year because of poor health, received an award from the AAMI for "Significant and Meaningful Contributions Made to the Field of Defibrillator Research."

Dr. Gregory Renner, assistant professor of surgery, presented a paper entitled "A Flap to Cover Large Defects of the Nasomaxillary Area" at the Third International Symposium of Facial Plast and Reconstructive Surgery in Los Angeles.

Armando R. Favazza, M.D., professor of psychiatry, recently presented a paper on "The Cultural Context of Self-Mutilation" to the West Virginia State Medical Society. He also has been appointed as the representative to the Society for Study of Psychiatry and Culture to the Transcultural Psychiatry Section of the World Psychiatric Association.

WASHINGTON UNIVERSITY

Ronald G. Evens, M.D., Elizabeth Mallinckrodt Professor and director of Mallinckrodt Institute of Radiology at the School of Medicine, delivered the 38th Annual Carman Lecture on October 18 for the Greater St. Louis Society of Radiologists and the St. Louis Metropolitan Medical Society.

Dr. Evens

Dr. Evens discussed the many pressures relating to the specialty of radiology in his talk, "Radiology 1984: Big Brother, Big Business, Big Technology, Big Change." Widely recognized as a specialist on the clinical and socioeconomic aspects of computed tomography as well as in methods for improving the efficacy and effectiveness of health care, Dr. Evens has expertise in all types of diagnostic imaging. He is a speaker at many state, national and international radiology meetings and serves on the faculty of continuing medical education programs at the nation's leading medical schools.

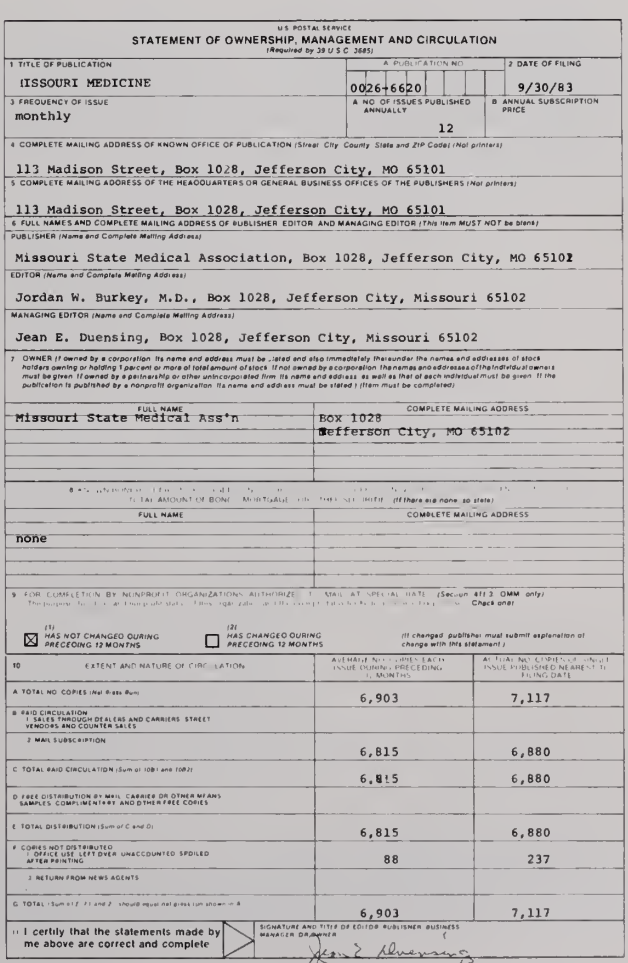
John Murray Fredrickson, M.D., head of the Department of Otolaryngology, has been named the second Lindburg Professor of Otolaryngology at the School of Medicine.

Before joining the faculty of Washington University School of Medicine, Dr. Fredrickson was professor of otolaryngology at the University of Toronto and director of its Clinical Sciences Division. Internationally recognized for his vestibular research, he developed an implantable middle-ear hearing aid in 1973 and a voice box for laryngeal cancer patients in 1981.

At Washington University Medical Center, he is otolaryngologist-in-chief at the Barnes Hospital and the Children's Hospital and a consultant to the Jewish Hospital of St. Louis.

Florence E. Moog, Charles Rebstock Professor of Biology, will be honored by the establishment of an endowed scholarship in her name.

A committee of former students, colleagues and friends has announced plans for a fund-raising campaign to endow the scholarship. "Professor Moog has taught nearly every premedical student who has graduated from Washington University in the last several decades. She has had a very special influence on all of us," said *John F. Porterfield,* M.D., pathologist and chairman of the fund drive.



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(Required by 39 U S C 3685)

1 TITLE OF PUBLICATION: ISSOURI MEDICINE
A PUBLICATION NO: 0026-6620
2 DATE OF FILING: 9/30/83
3 FREQUENCY OF ISSUE: monthly
A NO OF ISSUES PUBLISHED ANNUALLY: 12
B ANNUAL SUBSCRIPTION PRICE:
4 COMPLETE MAILING ADDRESS OF KNOWN OFFICE OF PUBLICATION *(Street City County State and ZIP Code) (Not printers)*: 113 Madison Street, Box 1028, Jefferson City, MO 65101
5 COMPLETE MAILING ADDRESS OF THE HEADQUARTERS OR GENERAL BUSINESS OFFICES OF THE PUBLISHERS *(Not printers)*: 113 Madison Street, Box 1028, Jefferson City, MO 65101
6 FULL NAMES AND COMPLETE MAILING ADDRESS OF PUBLISHER EDITOR AND MANAGING EDITOR *(This item MUST NOT be blank)*
PUBLISHER *(Name and Complete Mailing Address)*: Missouri State Medical Association, Box 1028, Jefferson City, MO 65102
EDITOR *(Name and Complete Mailing Address)*: Jordan W. Burkey, M.D., Box 1028, Jefferson City, Missouri 65102
MANAGING EDITOR *(Name and Complete Mailing Address)*: Jean E. Duensing, Box 1028, Jefferson City, Missouri 65102

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2 MAIL SUBSCRIPTION	6,815	6,880
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medical melange

Notes of interest from Here . . . . and There

Emmett F. Hoctor, M.D., who pioneered psychiatry in Southeast Missouri, was honored recently for his 60 years of service at the Farmington State Hospital by the Mental Health Association in Cape Girardeau County. Dr. Hoctor, who is 87 years old, was presented a plaque in recognition of his 38 years of service as superintendent of the hospital, after which he served as director of Community Psychiatry for the hospital from 1963 until his retirement in recent years. The tribute pointed out that Dr. Hoctor was the only psychiatrist in Southeast Missouri between St. Louis and Springfield and between St. Louis and Memphis for a span of many years. He now lives on the hospital grounds in Farmington in a residence located directly across from the Hoctor Building, which was dedicated to the physician in 1962 by the State of Missouri.

Phillip W. Pitney, M.D. of Louisiana (Mo.) has been reappointed as a member of the State Board of Registration for the Healing Arts by Gov. Christopher Bond. His term will end on Sept. 3, 1987. Dr. Pitney, a Board Certified physician specializing in the area of family practice, received his M.D. degree from the University of Missouri-Columbia.

Dr. Barbara Russell, Rolla pediatrician, was a featured speaker at an in-service training for 40 Senior Services Council (SSC) homemaker aides working in the child abuse and neglect prevention program this fall. The training was held at the University of Missouri-Rolla.

Dr. Ruth Seevers, Osceola, celebrated her 100th birthday on September 6. Dr. Seevers began her practice with her father, Dr. John Seevers, in 1906 and continued to serve the area for more than 70 years.

Dr. Roy Gillespie, Branson, was honored recently "in recognition of his 25 years of medical service to this community (Branson)." The reception was given by the **Tri-Lakes Medical Society Auxiliary** in conjunction with the **Tri-Lakes Medical Society** and **Skaggs Community Hospital.** A general practitioner, Dr. Gillespie is now in semi-retirement.

Dr. Fred Hink has retired after 51 years of medical practice in the Fairmount area of Independence. Dr. Hink graduated from the University of Missouri-Columbia with a B.S. degree in medicine and completed his medical training at the University of Kansas in Kansas City, Kan. in 1931.

Dr. A. J. Campbell of Sedalia (MSMA Sixth District Councilor), Mrs. Campbell and their family were the subject of a lengthy feature story in *The Pettis County Times* on October 5. Title of the story is "Campbell Legacy Continues — Healing Others, A Family Tradition." To quote Reporter **Mary Wollet Hellesvig,** "It could almost be called truly a family affair." Dr. Campbell's father and an uncle were physicians. Dr. Campbell, Sr. practiced medicine in Sedalia until his death in the mid-1950s. Dr. Campbell, Jr. then assumed his father's practice as a new graduate. Their daughter, **Elizabeth,** recently accepted the position of Chief Resident in the Department of Internal Medicine at the University of North Carolina School of Medicine. Their son, **Jim,** the third A. J. Campbell to graduate from the University of Missouri School of Medicine, is now serving a five-year residency in surgery at Ohio State University. Their son, **Bob,** who is a resident of Wichita, Kan., shares in his parents' pride of his brother and sister.

Dr. James M. Myers retired in September after serving 36 years as a University of Missouri-Rolla staff physician. During the last 15 years, he was director of the University's Student Health Service. Dr. Myers established his general practice in Rolla in 1947. He has stated that he will continue to be available to the University as a consultant and for emergency services.

Dr. Harold Stricker, Jefferson City, also has retired after his 33-year career as an obstetrician in Jefferson City. He ended his practice in September with the delivery of a baby, the 6,662nd child he has delivered. Dr. Stricker attended the University of Missouri-Columbia School of Medicine and completed his medical training at St. Louis University before being drafted and serving during the final days of World War II.

Dr. T. W. Garrison, Jr., Camdenton, has been elected to serve as the Lake of the Ozarks General Hospital's fourth chief of staff. Dr. Garrison began his practice in the Lake Area in 1959 and has been a member of the medical staff since the opening of the hospital in 1978. Dr. Garrison's wife, Loretta, is a physician's assistant and works full time with her husband. Their daughter, Carla, is a second-year student at the Unviersity of Missouri-Columbia School of Medicine. The Garrison's were medical missionaries in Korea for several years.

Dr. Joseph J. Williams, orthopedic surgeon in West County St. Louis, has reported that he is using the cementless-ceramic total hip replacement procedure. The first ceramic total hip replacement used at St. John's Mercy Hospital in St. Louis was in August. Dr. Williams reports that there have been many years of clinical trials in 20,000 patients with a ten-year follow-up period. Patients' ages have ranged from 17 to 81. He has stated that goals of the procedure are decreased pain, increased function and increased range of motion.

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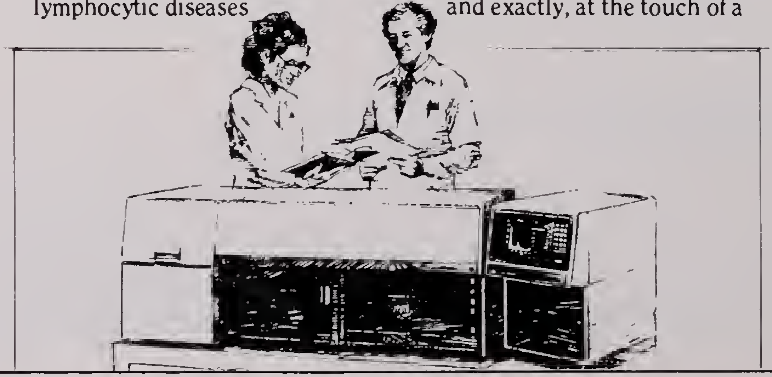

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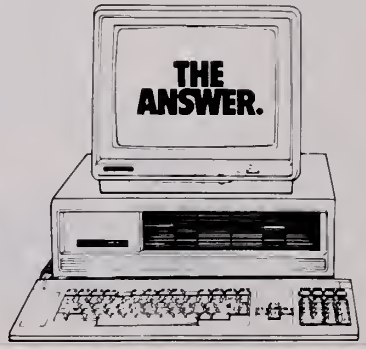

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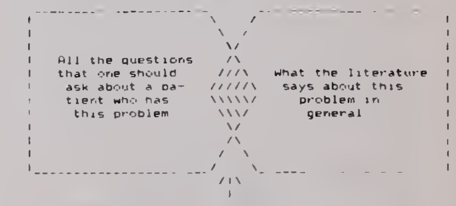
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References: 1. Kales A *et al: J Clin Pharmacol 17*:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **3.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **4.** Kales A *et al: JAMA 241*:1692-1695, Apr 20, 1979. **5.** Kales A, Scharf MB, Kales JD: *Science 201*:1039-1041, Sep 15, 1978. **6.** Kales A *et al: Clin Pharmacol Ther 19*:576-583, May 1976. **7.** Kales A, Kales JD: *Pharmacol Physicians 4*:1-6, Sep 1970. **8.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **9.** Dement WC *et al: Behav Med 5*:25-31, Oct 1978. **10.** Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **11.** Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. **12.** Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. **13.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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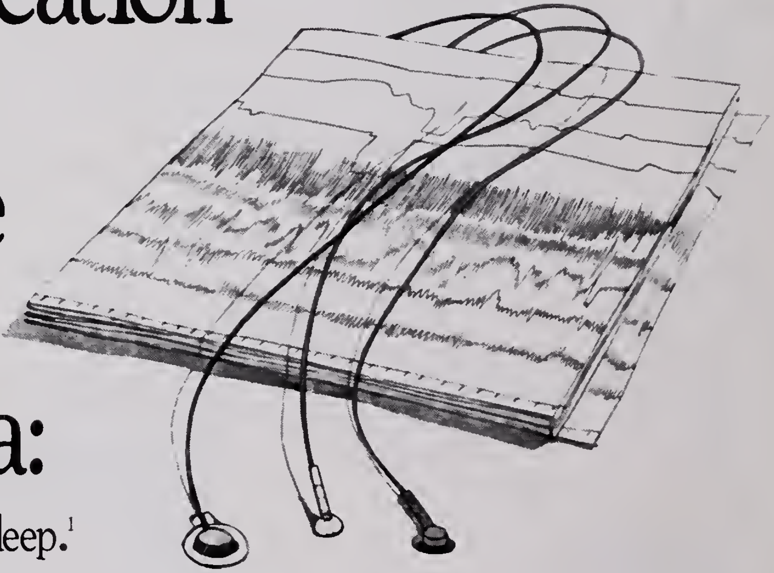

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Missouri Medicine

Vol. 80, No. 12 (ISSN 0026-6620) December, 1983

Special Article

Acquired Immune Deficiency Syndrome (AIDS)

Scientific Articles for Discussion and Debate

Editor's Corner

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Proposed Changes in MSMA Constitution and Bylaws

Missouri State Medical Association

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PROGRESS NOTES

missouri state medical association

DECEMBER 1983

RIG Vials Misboxed

The Missouri Division of Health is advising all physicians who may use Rabies Immune Globulin (RIG) to carefully inspect boxes of RIG to assure that each vial is labeled RIG.

One vial labeled Tetanus Immune Globulin (TIG) was found in a box labeled RIG. This vial has been tested and is definitely not RIG, but whether it is TIG is not yet known. The Food and Drug Administration is proceeding under the assumption that if one misboxed vial occurred, others also may be found within the specified lot.

The lot number is C51235 from Cutter Laboratories. Cutter Laboratories has notified each of its 1,704 consignees (in the last 12 months) of Cutter's Rabies Immune Globulin (Hyperab) of the potential problem. In addition, the Missouri Division of Health has telephoned each of the 27 hospital pharmacies known to maintain stocks of RIG.

If a physician discovers additional misboxed vials, the Missouri Division of Health should be notified as soon as possible. For further information, contact Dr. F. T. Satalowich, 314-751-2713, or 800-392-0272.

Deadline Nears for Resolutions

MSMA members, component medical societies and medical student delegates who wish to introduce resolutions at the 1984 Annual Convention of the Missouri State Medical Association are reminded that resolutions must be submitted by February 1, 1984 for insertion into the Delegate Handbook.

MGH Courses

Computer CME Courses Available Through AMA/NET

Computer-generated self-assessment courses that were developed originally for Harvard Medical School are now available to physician-subscribers to AMA/NET, the nationwide telecommunications network of the AMA.

The Missouri State Medical Association is the distributor of the network to Missouri physicians.

AMA/NET's newest feature consists of 20-plus modules or courses in subjects as diverse as abdominal pain and meningitis, coma and cardiopulmonary resuscitation. Using his own terminal, a physician can test his clinical skills through simulated patient encounters that were developed by G. Octo Barnett, M.D., director of the Laboratory of Computer Science, Massachusetts General Hospital, Boston.

The courses carry continuing medical education credits toward the AMA Physician's Recognition Award.

The computer automatically guides the physician through simulated clinical problems, critiques his problem solving, and suggests alternative approaches he might have used. If the physician disagrees with the computer, he can interrupt the course at any time to send a question or comment to MGH through a built-in electronic mail system. A day later, he can turn on his computer terminal, access his mail, and read a response from an MGH physician.

For more information on the AMA/NET, contact Sandra Newman at MSMA Headquarters, Box 1028, Jefferson City, 65102, or call 314-636-5151.

Sermchief Case Ends

Court Expands Nurses' Duties

The controversial *Sermchief* case ended with the Missouri Supreme Court's decision to uphold the provisions of the 1975 Nurse Practice Act which allows nurses to perform a wide range of medical tasks, relying on written orders from physicians and the nurses' own training.

The court, through an opinion by Judge Warren D. Welliver, cited a "manifest legislative desire to expand the scope of authorized nursing practices. Every witness at trial testified that the new definition of professional nursing is a broader definition than that in the former statute."

Judge Welliver wrote that the court believes that the 1975 state law allows nurses to assume responsibilities "heretofore not considered to be within the field of professional nursing."

The expanded nursing duties had been challenged by the State Board of Registration in a case where two southeast Missouri nurses were challenged for performing tasks including breast and pelvic examinations, dispensing medications and giving information on birth control devices.

The State Board of Registration filed the suit following complaints by physicians in the area. The Missouri State Medical Association filed an *amicus curiae* in the case.

M.D.s Advised to Get Consent for DWI Test

The Missouri Attorney General's office advises physicians and hospitals not to draw blood to determine the blood-alcohol level of a patient if he or she refuses to consent, even if the arresting officer requests the test in writing.

The Missouri Hospital Association has made available to all its member hospitals a form, Request and Verification of Chemical Test, which arresting officers are to fill out when requesting a physician to administer a blood-alcohol test to a drunk driving suspect.

Even if the arresting officer does complete the form, the state's Attorney General advises administering the test only if the patient consents.

★ Tip of ★ the Month

R. D. Miller, officer manager for the Med Square Clinic in Silver City, New Mexico, has this tip to share with you:

"We use to spend endless hours explaining and re-explaining our routine office, billing and insurance procedures to new and old patients alike. Now, thanks to a handy, folding, pocket-sized card, we can spend our time carrying out these procedures.

"Realizing that the likelihood of our patients keeping a patient information brochure around for reference purposes was slim, we decided to give patients a reason to keep it. We printed a chart containng the caloric value of most of the popular fast food items on the reverse side of the patient information card. Now, we can write the patient's chart number, and the chart numbers of other family members, on the card, which saves time when we have to retrieve their medical histories to attach to a telephone message for the doctor.

"Other valuable information, such as insurance policy numbers, can also be entered on the card for the patient to read off when calling the office. We figure the cards will begin losing value when fast foods are no longer popular — whenever that time may come."

Copyright *The Doctor's Office,* 24 W. King St., Lancaster, PA 17603.

Medical Ethics

Medical Records Not Withheld

The Association recently has received several inquiries concerning the release of medical records to patients who have outstanding bills. It has long been the official policy of the Missouri State Medical Association, in accordance with the ethical policies of the AMA, that medical records not be withheld because of an unpaid bill.

Reprinted below is Section 7.02 of the *Current Opinions of the Judicial Council of the American Medical Association* which addresses this issue.

Records of Physicians: Information and Patients.

"Notes made in treating a patient are primarily for the physicians's own use and constitute his personal property. However, on request of the patient, a physician should provide a copy or a summary of the record to the patient or to another physician.

"Several states have enacted statutes that authorize patient access to medical records. The statutes vary in scope and mechanism for permitting patients to review or copy medical records. Access to mental health records, particularly, may be limited by statute or regulation. A physician should become familiar with the applicable laws, rules or regulations on patient access to medical records. The record is a confidential document involving the physician-patient relationship and should not be communicated to a third party without the patient's prior written consent, unless it is required by law or is necessary to protect the welfare of the individual or the community. Medical reports should not be withheld because of an unpaid bill for medical services. Simplified, routine insurance reimbursement forms can be prepared without charge, but a charge for more complex, complicated reports may be made in conformity with local custom."

Looking Ahead

DRGs May Include M.D. Charges

The Health Care Financing Administration has begun to compute physician charges by diagnosis-related groups, and federal legislators have expressed an interest in using DRGs to reimburse physicians as well as hospitals.

"You can expect that as soon as the data are available, physicians will be included in the prospective payment system," said U.S. Senator David Durenberger (R-Minn.) at the recent AMA Conference on PROs and Prospective Payment. "I foresee inclusion of a physician payment into each hospital DRG. Thus, there would be one lump sum payment to be shared by the physician and the hospital.

"That payment would not necessarily have to be made to the hospital. In fact, if a physician-sponsored organization were willing to accept the entire payment and contract with hospitals for institutional services, all the better. After all, it's physicians — not hospitals — who manage patient care," Durenberger said.

New Discount on Workers' Comp

The Dodson Insurance Group has received approval for a 15 percent advance discount on premiums for workers' compensation insurance written in Missouri. The reduction in cost will go into effect January 1, 1984.

The Dodson Dividend Plan was recently approved by the Missouri State Medical Association for its proven potential to help physicians reduce the cost of their workers' compensation insurance.

The new advance discount provides an immediate savings on premium cost for physicians in the Dodson Dividend Plan for Workers' Compensation Insurance. The plan will continue to offer returns of premium based on the cost of claims from those who participate. These dividends are paid as soon as payroll audits are completed after policy expiration each year.

Additional information is available from the Dodson Insurance Group, P.O. Box 559, Kansas City, MO 64141, or call toll-free 800-892-3431 and ask for Direct Sales.

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DESCRIPTION: Each sustained release capsule contains 12 mg of Chlorpheniramine Maleate, USP and 75 mg of Phenylpropanolamine Hydrochloride, USP in a base to provide prolonged activity.

INDICATIONS: For the treatment of the symptoms of seasonal and perennial allergic rhinitis and vasomotor rhinitis, including nasal obstruction (congestion).

CONTRAINDICATIONS: Hypersensitivity to any of the components, concurrent MAO inhibitor therapy, severe hypertension, bronchial asthma, coronary artery disease, stenosing peptic ulcer, pyloroduodenal or bladder neck obstruction. Do not use in children under 12 years.

Do not use this drug in patients with narrow-angle glaucoma, obstructive or paralytic ileus, intestinal atony of the elderly or debilitated patient, unstable cardiovascular status in acute hemorrage, severe ulcerative colitis, toxic megacolon complicating ulcerative colitis, myasthenia gravis. Do not use in nursing mothers.

Use in treating lower respiratory tract symptoms, including asthma, is contraindicated.

WARNINGS: Caution patients about activities requiring alertness (e.g., operating vehicles or machinery). Antihistamines are more likely to cause dizziness, sedation, and hypotension in elderly patients. Patients should also be warned about the possible additive effects of alcohol and other CNS depressants.

Usage In pregnancy: Safe use in pregnancy has not been established. Use only when the potential benefits have been weighed against the possible hazards to the mother and child. Note that an inhibitory effect on lactation may occur.

PRECAUTIONS: Use with caution in patients with a history of bronchial asthma, increased intraocular pressure, hyperthyroidism, cardiovascular disease, hypertension, hiatal hernia with reflux esophagitis, intestinal atony of the elderly or debilitated intestinal obstruction, myasthenia gravis, renal function impairment, and ulcerative colitis (severe).

Drug Interactions: MAO inhibitors, Alcohol or CNS depressants, especially anesthetics, barbiturates, and narcotics.

ADVERSE REACTIONS: Prolongs the response to nervous stimulation, potentiates the response to norepinephrine, and inhibits the response to tyramine.

Slight to moderate drowsiness occurs relatively infrequently with Chlorpheniramine Maleate. Other possible side effects common in antihistamines in general include perspiration, chills, dryness of mouth, nose and throat.

Cardiovascular System: Hypotension, headache, palpitations, tachycardia, extrasystoles.

Hematologic System: Hemolytic anemia, thrombocytopenia, agranulocytosis.

Nervous System: Sedation, dizziness, disturbed coordination, fatigue, confusion, restlessness, excitation, nervousness, tremor, irritability, insomnia, euphoria, paresthesias, blurred vision, diplopia, vertigo, tinnitus, acute labyrinthitis histeria, neuritis, convulsions.

Gastrointestinal System: Epigastric distress, anorexia, nausea, vomiting, diarrhea, constipation.

Genitourinary System: Urinary frequency, difficult urination, urinary retention, early menses.

Respiratory System: Thickening of bronchial secretions, tightness of chest and wheezing, nasal stuffiness.

DOSAGE AND ADMINISTRATION: Dosage should be individualized according to the needs and response of the patient. Adults: one capsule every 8 to 12 hours not to exceed 3 capsules daily. Not for use in children under 12 years of age.

OVERDOSAGE: Treatment of the signs and symptoms of overdosage is symptomatic and supportive. In the event of overdosage, emergency treatment should be started immediately.

Treatment: The patient should be induced to vomit, even if emesis has occured spontaneously. Vomiting by the administration of ipecac syrup is a preferred method. However, vomiting should not be induced in patients with impaired consciousness. Stimulants (analeptic agents) should not be used. Vasopressors may be used to treat hypotension. Short-acting barbiturates, diazepam or paraldehyde may be administered to control seizures. Hyperpyrexia, especially in children, may require treatment with tepid water sponge baths or a hypothermic blanket. Apnea is treated with ventilatory support.

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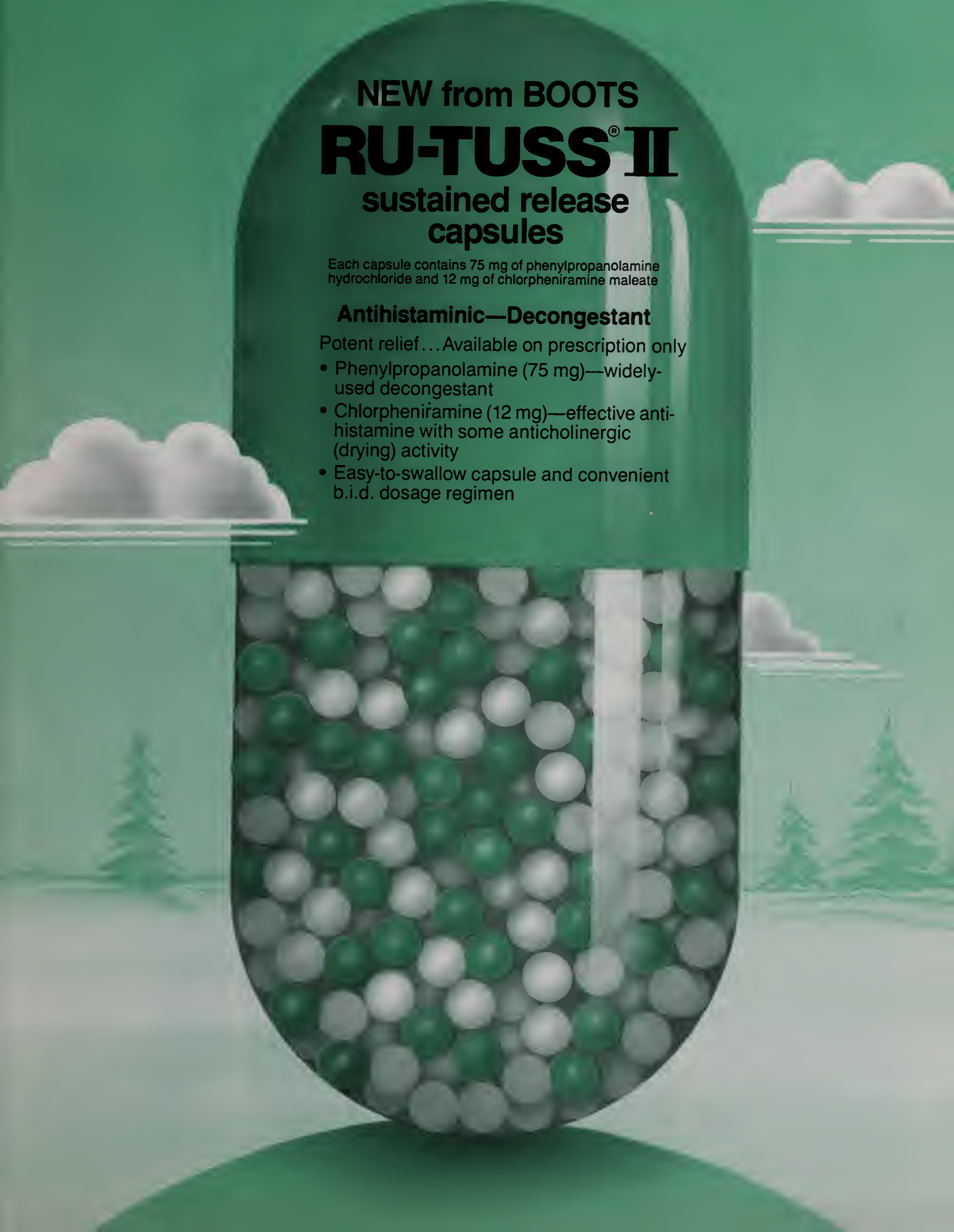

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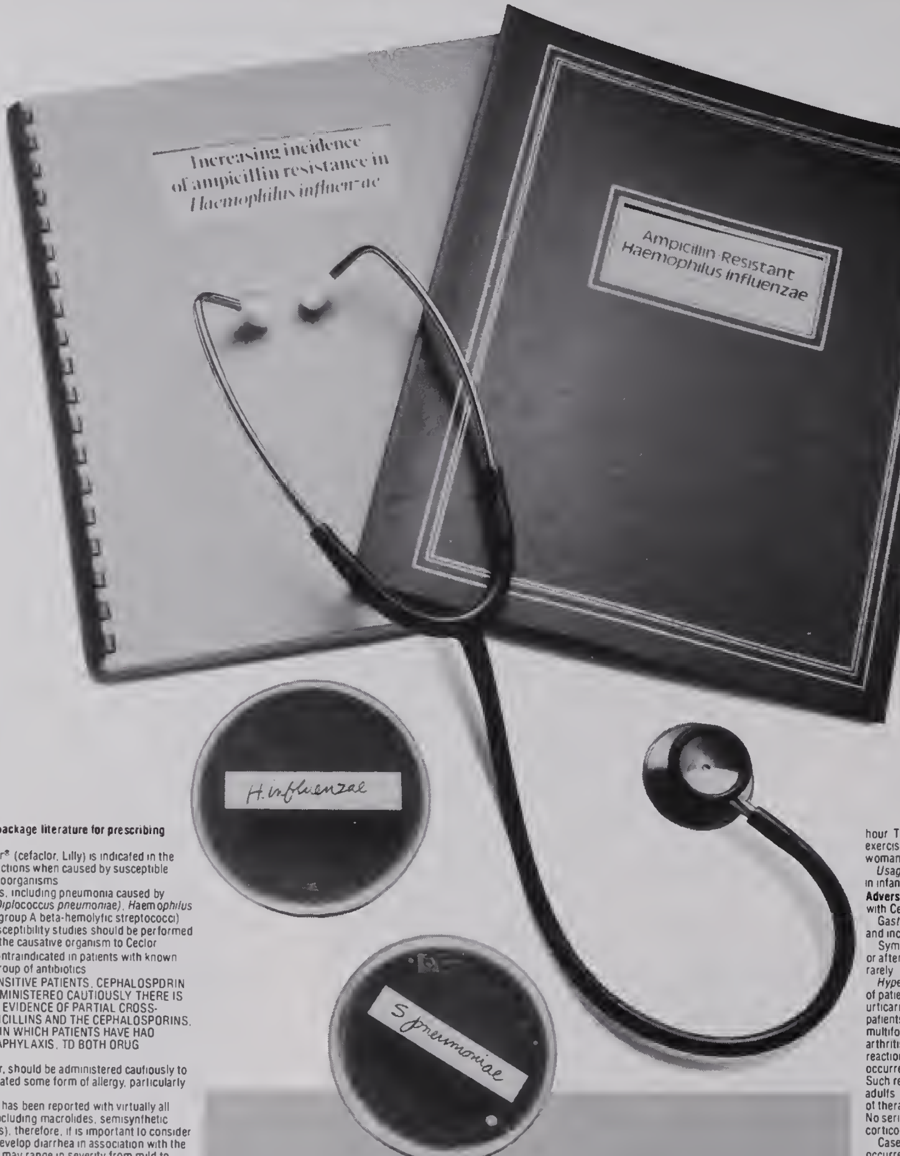
Increasing incidence of ampicillin resistance in Haemophilus influenzae
Ampicillin Resistant Haemophilus influenzae
H. influenzae
S. pneumoniae

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and *S pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by C *difficile* Other causes of colitis should be ruled out

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e g , pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[061782R]

Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

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---

* Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S pneumoniae* or *H. influenzae* [8]

Note Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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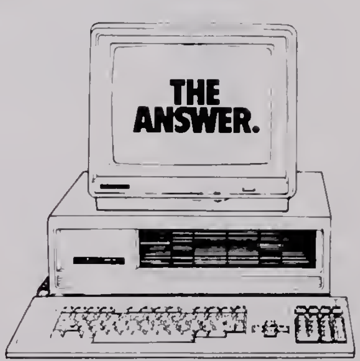

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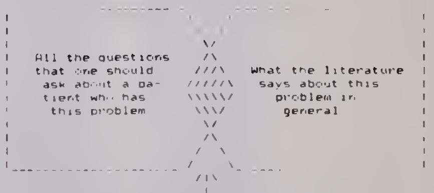
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Editor's Corner

EDITORIAL

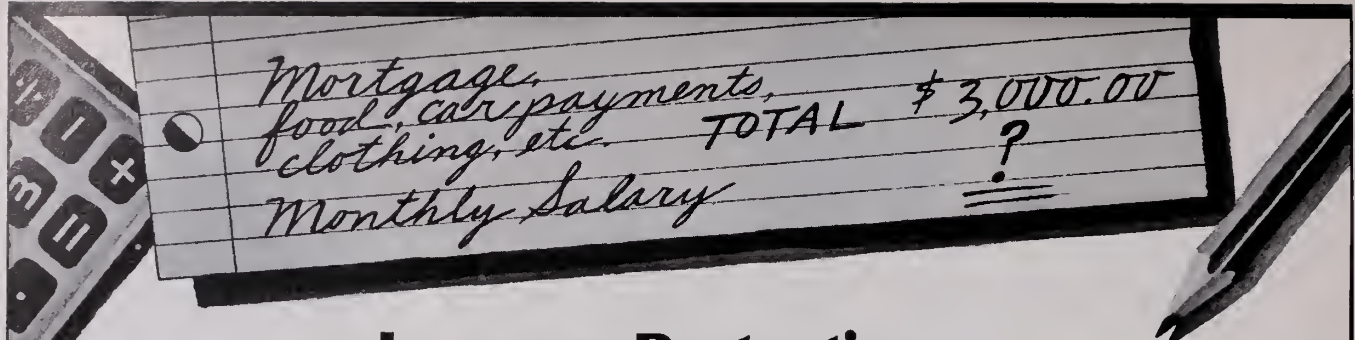
Medical school, the time and place for education, provides a wide variety of learning experiences. Probably the least rewarding teaching modality involves the compulsory, didactic type lectures on some subject of importance on which everybody agrees, and the agreed-on facts have to be somehow forced into the students' heads. (A lecture on liver function tests, given after lunch on a warm afternoon, is recalled as the extreme example of this.) Then there are the times when an argument erupts — nothing brings students to attention faster than hearing one professor taking out after another on some controversial subject. These are the times of learning.

Physicians by the nature of their work are involved in controversy all of the time. The internist vs surgeon dichotomy over when to care and when to cut is classical, but disagreements go on and on. Does one pursue the hands-off ivory tower approach to the treatment of infections or pragmatically give antibiotics? Do we always go with the newest drug or procedure or string along with tried and true treatment methods which have always been trustworthy? How should a dizzy patient or one with headache problems be evaluated — step by step, or going right for the CAT scan? Immunotherapy is on the scene now, but has it reached the point of everyday consideration? When to aliment, when to ambulate, and whom to vaccinate — doctors disagree with each other throughout their years of practice and thereby obtain some of their best continuing medical education. A number of the formal postgraduate education courses often show recognition of this fact by being formulated into "Great Controversies in —" some medical subject.

MISSOURI MEDICINE would like to pay recognition to the learning potential of disagreeing by grouping in this issue articles that have a hint of controversy in them. Estrogen pellet injection after hysterectomy may not be approved by all gynecologists. Chemonucleolysis is a new treatment modality in disc problems, but is it an overly promoted method of handling these cases? Carotid endarterectomies are standard procedures, but how many surgeons do all their cases with the patient under local anesthesia? Low forceps deliveries with episiotomies are involved in the rare necrotizing fasciitis. Perhaps there is a need to reevaluate basic obstetrical procedures.

As long as doctors disagree and argue and discuss their medical problems they keep themselves intellectually sharp and continue to learn — and, thereby, continue to provide their patients with the best possible medical care.

JORDAN W. BURKEY, M.D.
Springfield



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Volume 80, Number 12 — December, 1983

Missouri Medicine

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CLARK WATTS, M.D. *and*
ROBERT GAINES, M.D., *Columbia*

Chemonucleolysis

The Treatment of Lumbar Intervertebral Disc Disease by the Intradiscal Injection of Chymopapain

Chemonucleolysis is the term introduced by Smith in 1964 to describe a technique for the intradiscal injection of chymopapain in the treatment of lumbar intervertebral disc disease.[1] The development and acceptance of this procedure has been slow and surrounded by controversy and most of the reported clinical studies have been uncontrolled. In view of the recent approval of the drug, chymopapain, for chemonucleolysis[2] by the Federal Food and Drug Administration, the authors provide this basic review of the indications and mechanisms of action and the technique of its use.

Background

After the description of ruptured lumbar intervertebral disc disease by Mixter and Barr in 1932,[3] intensive interest was focused on the lumbar intervertebral disc. The anatomy of the intervertebral disc previously had been outlined. The nucleus pulposus, the weight-distributing central portion of the disc, was known to be surrounded by the annulus fibrosus. In young persons, the nucleus is a gel-like hydrophilic material rich in chondromucoprotein with a small amount of collagen. The annulus fibrosus is almost strictly collagen.

In the 1940s and 1950s, it was learned that in patients who are aging, there is a gradual loss of water from both the nucleus and the annulus and a transition from excellent weight distribution by the nucleus during their youth to less efficient weight distribution in their later years.[4]

The natural history of lumbar disc degeneration was also identified (Fig. 1). It was determined that the earliest changes of aging or injury in the disc consist of ruptures of the inner fibers of the annulus fibrosus (an "intra-annular rupture"). Tears in the inner layers of the annulus that extend through a substantial portion of the annulus have the potential to entrap portions of the nucleus pulposus that are caught in these tears. Occasionally, the tears in the annulus fibrosus

The intradiscal injection of chymopapain for lumbar intervertebral disc herniation syndromes now appears to be an acceptable form of treatment for some patients. Since the Food and Drug Administration recently approved the use of this drug for chemonucleolysis, the authors offer a basic review of the indications and mechanisms of action and the technique of its use.

Dr. Watts is Professor of Surgery, Division of Neurosurgery, and Dr. Gaines is Assistant Professor of Surgery, Division of Orthopedic Surgery, University of Missouri-Columbia School of Medicine.

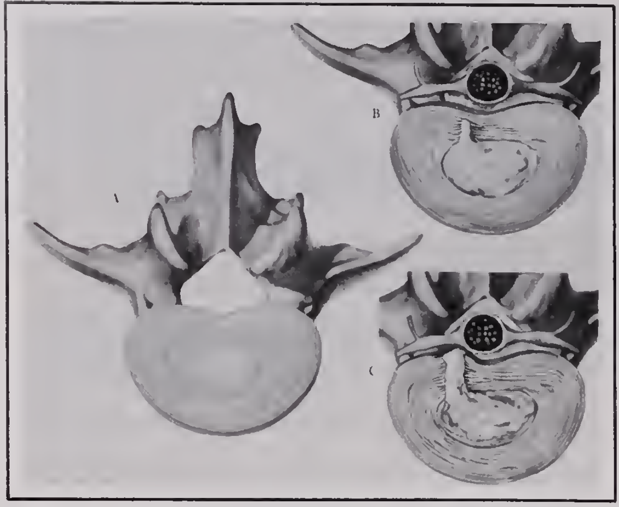

Fig. 1 (A) Normal intervertebral disc consists of nucleus pulposus enclosed by annulus fibrosus. (B) Earliest changes of aging or minor disc injury are tears of the inner layers of annular fibers. A fragment of nucleus can be trapped in these inner tears and cause back pain and referred pain. (C) If tears extend through the entire thickness of the annulus, nuclear fragments can either bulge the outer layer of annulus and cause nerve root pressure or rupture completely through the annulus. (This illustration is from the book, "The Intervertebral Disc" by DePalma and Rothman and is reprinted with permission of W. B. Saunders Company.)

may extend through the entire layer of the annulus. If a portion of the nucleus pulposus herniates completely through that tear and bulges the outer layer of the annulus fibrosus, the clinical situation is referred to as a protruding or "bulging" disc. Occasionally, a fragment of nucleus pulposus extrudes all the way out of its cavity and into the spinal canal, traversing all of the layers of the annulus fibrosus. Clinically, this is referred to as a "free fragment" or extruded disc.

Though these changes occur as a natural process of aging, injuries can also cause or aggravate preexisting changes. Indeed, many of the patients with symptomatic intervertebral disc disease do have a traumatic aggravation of their underlying disc changes.

While this normal physiologic process may be symptomatic, the degenerative process of the lumbar discs in most patients is entirely asymptomatic. Thus, it is incumbent on the physician to determine whether or not changes of aging seen by clinical examination or by x-ray are symptom-producing.

The fundamental interest in chymopapain was based on the recognition that structural incongruities between the annulus fibrosus and the nucleus pulposus were responsible for many patients' symptoms. Hirsch suggested that enzymatic dissolution of the nucleus pulposus might improve symptomatic disc disorders.[5] Smith, after substantial animal and laboratory investigation, settled on chymopapain as the enzyme with the greatest efficiency of nuclear dissolution accompanied by the lowest toxicity.[1]

BIOCHEMISTRY AND MECHANISM OF ACTION

Chymopapain is a proteolytic enzyme that causes degradation of chondromucoprotein, the hydrophilic material that is responsible for the gel-like nature of the nucleus pulposus.[6] Following the intradiscal injection of 3 mg or 4 mg of chymopapain, urinary excretion of mucopolysaccharides is increased for several days both in animals and in man. Chymopapain has no effect on the annulus fibrosus, which is composed largely of collagen.

The mechanism of action of chymopapain on the herniated lumbar intervertebral disc is unknown. However, enough information about the use of chymopapain around the world has been gained over the past 15 years to suggest one of three mechanisms.[7]

First, chymopapain may break down the existing mucopolysaccharides that remain within the degenerative disc fragment, thus reducing the fragment size. This reduction in size may decompress the nerve root sufficiently to reduce symptoms. The disc then, during convalescence, could heal as postoperatively.

Second, it has been shown that the annulus contains pain fibers, a fact that may be clinically significant.[8, 9] A disc fragment impacted within the annulus may produce a syndrome of back and leg pain similar to that produced by actual nerve root compression. Chymopapain has been shown to destroy poorly myelinated nerve fibers.[10] Thus, it is reasonable to believe that if chymopapain came into contact with the poorly myelinated pain-sensitive nerve fibers within the annulus, it could destroy these pain fibers producing a "chemical neurectomy" and abolish pain. Some patients have reported the absence of leg pain within minutes of the injection, which suggests confirmation of this thesis.[11] By reducing the size of the fragment impacted with the annulus, of course, reduced stretching of the pain-sensitive nerve fibers and reduction in pain also could result. However, this reduction in fragment size would take several days to accomplish and this mechanism would not explain the immediate reduction in pain seen in some patients.

Finally, all drugs are known to have a placebo effect. Despite the recent publicity that chymopapain injections result in an immediate cure, this is simply not the case. Most patients require a convalescence period of several weeks not unlike that following surgery.[11] A patient who has entered the hospital and subjected himself to a treatment that is relatively costly and that has certain risks may be more motivated to follow the instructions for sedentary activity after the injection than before. This enforced convalescence will result in disc healing. Since the results from treatment of lumbar disc disease by enforced bed rest for several weeks is as good as that reported in most series of patients undergoing chymopapain chemonucleolysis,[12] it is tempting to speculate that the enforced convalescence results from the satisfactory treatment and not from the injection of the specific proteolytic enzyme chymopapain.

Results and Complications

Between 1964 and 1975, chymopapain was used rather indiscriminately without controls in patients with low back pain as well as suspected disc herniation. These uncontrolled studies yielded success rates ranging from 92% to 49%, with a mean of approximately 60% to 70%.[12] In 1976, a double blind series was reported indicating no difference between the effects of chymopapain and a placebo upon lumbar intervertebral disc rupture. These patients, who were approximately 66 of the total study, were carefully selected and monitored. A follow-up report showed delayed results for at least a year following injection to be no different.[13] After these reports, the major industrial producer and investigator of chymopapain, Baxter-Travenol Laboratories of Deerfield, Ill., withdrew its application for approval of chymopapain from the Federal Food and Drug Administration.

Another laboratory, Smith Laboratories, which was founded by the introducer of the procedure, subsequently tested in a double blind series (containing 108 patients) its formulation of chymopapain. It is this drug that the Federal Food and Drug Administration has recently approved for use. Although their results are not published in the scientific literature, informal review of the data suggests that chymopapain is more effective than placebo in the treatment of a well-defined group of patients with ruptured lumbar intervertebral disc disease.[2]

A study of more than 13,000 patients treated with the Baxter-Travenol product indicates that complications are unusual.[14] A similar experience has been recorded in more than 1,400 patients treated with the Smith Laboratories product.[2] A few complications relate directly to the technique of its use, such as injury of the spinal nerve during needle placement or a very rare infection introduced by needle puncture of the disc. The major complication, occurring in about 2.5% of patients, is a sensitivity reaction to the injection of the proteolytic enzyme. While this usually takes the form of a rash that may appear within the first 24 to 48 hours after injection, approximately one fourth of these patients will undergo an anaphylactic reaction with urticaria, bronchospasm and hypotension. Approximately one fourth of these reactions are quite severe and require intensive acute treatment. Thorough analysis of the completed series has indicated that the death rate from injection of chymopapain is approximately one in 600 patients. Prompt and effective prophylactic treatment may effectively mitigate even the most serious reactions to the drug.[15]

Summary

Chemonucleolysis, the intradiscal injection of chymopapain for lumbar intervertebral disc herniation syndromes, appears to be an acceptable form of treatment in some patients. These patients classically have intermittent low back pain and leg pain.[11] The pain is roughly in the distribution of a spinal dermatome and is accompanied by minimal, if any, neurological deficit. The patient will have responded to conservative treatment on a number of occasions only to experience relapses. The injection itself is relatively simple but, because of the unusual but severe complications of anaphylaxis, the procedure should be done under operating room conditions with an anesthesiologist experienced in the management of anaphylaxis. The success rate will be less than that for surgery[11] and the complication rate is similar to that for surgery.[14] The total cost to the patient in terms of financial outlay and convalescent time is similar to that for surgery, based on a recent analysis of the economic impact of chymopapain therapy on low back disease (unpublished data).

Although the long-term results of the use of chymopapain (e.g., many years) has not been established for a large number of patients, it is reasonable to anticipate that chronic disc-space narrowing leading to spondylosis and spinal stenosis can be anticipated. Because of the subtleties of the indications; the unusual but severe complications; the controversies surrounding the effica-

(Continued on page 742)

MATT H. BACKER, JR., M.D., ANDREA POZEZ, M.D.
and RAYMOND E. PROBST, M.D., *St. Louis*

Estrogen Pellet Therapy After Hysterectomy

A Clinical Review

HISTORICAL BACKGROUND

IN 1938, animal studies[1, 2] established the efficacy of hormones administered subcutaneously as crystals or compressed tablets. These observations of animals were confirmed in 1941.[3]

P. M. F. Bishop first reported the implantation of crystalline oestrone in a castrate woman in 1938.[4] In 1939, Salmon *et al* reported a similar study.[5] From 1940 to 1942, nine other significant articles on the use of estrogen pellet implantation in female patients were published.[6-14] From 1949 to 1966, another ten articles appeared.[15-24] Four additional confirmatory articles were published between 1973 and 1979.[25-28] All of these articles report that subcutaneous pellets of estrogen were used to treat spontaneous, surgical or radiation menopause. In a few cases, hypogonadism was also treated with this modality. Pellet therapy was found most useful in the hysterectomized patient.[1, 8, 15, 16, 18, 19, 23, 24, 27, 29]

The papers referenced cite thousands of implants in hundreds of women. From their briefest overview, one must conclude the following:

1. Effectiveness of estrogen pellets implanted subcutaneously, even in low dosage, (e.g., one 25 mg pellet of estradiol per year), is striking. They promptly and regularly relieve menopausal symptoms, especially vasomotor phenomena and atrophic vaginitis, and they usually decrease the symptoms of headache, insomnia, melancholia, nocturia, irritability and formication.
2. Side effects are minimal. Transient mastalgia and very rarely suppuration or hematoma at the implant site are noted. In women with intact uteri, for whom we do not recommend this form of therapy, bleeding is reported in 10% to 60%.
3. No cases of endometrial or breast cancer were reported in the articles reviewed.

TABLE 1
AGES OF PATIENTS

20-30	30-40	40-50	50-60	60-66
5	21	91	103	14

PATIENTS AND METHOD

This report deals with 234 female patients, all of whom had their uteri removed prior to pellet implantation. The pellets were all 25 mg of estradiol (Progynon, Schering), and all reported patients were implanted between 1961 and 1980. We actually began implanting pellets as early as 1956 but did not begin accounting this data on our patients in a retrievable manner prior to 1965. A few patients who had implants before 1961 continued to return for them and were subsequently included in this study. Our experience with estrogen pellet implantation, therefore, includes treating more than 250 patients who received implants during more than 25 years. All patients reported were treated in a two-man private office (Tables 1 & 2).

In 86 patients, estrogen pellets were implanted as prophylaxis against the symptoms of surgical menopause at the time of the hysterectomy. A single pellet of Progynon was laid beneath the rectus fascia following abdominal hysterectomy or buried in the perineal musculature following vaginal hysterectomy. In patients who had concomitant colporrhaphies, the implanted estrogen aided vaginal healing and improved mucosal elasticity. In many, it promoted a sense of well-being in the postoperative period.

All other implants were performed as therapy as a simple outpatient procedure in our office. In these patients, we implanted a single pellet sub-

TABLE 2
TYPES OF SURGERY

TAH/BSO	139
VH/BSO	9
VH	36
AH	11
AH/1 OVARY	4
VH/1 OVARY	1
(Done by others)	24
	234

cutaneously in the upper outer quadrant of the hip (Fig. 1).

TECHNIQUE

The skin is vigorously scrubbed with alcohol, and 3 ml to 5 ml of 1% mepivacaine hydrochloride (Carbocaine Hydrochloride) is introduced in a linear fashion at a 45-degree angle. Using sterile technique, a Kearns pellet injector is then introduced along the anesthetized path with its stylet in place. The stylet is then removed, and the estrogen pellet is dropped down the hollow shaft of the intrument; the pellet is then pushed out of the end of the implanter with an obturator and into the subcutaneous fat. The puncture site is not sutured, but it is pulled together with an adhesive tape butterfly. The procedure usually requires less than three minutes.

While many patients in the therapeutic group had more than one indication for estrogen therapy, the indications of those seen most often are listed in Table 3.

A total of 1,281 pellets were implanted in these 234 patients. One patient received 27 pellets over a period of 14 years. She returned for the pellets religiously every six months, stating that they regularly relieved her nervousness, depression and vaginal dryness. Another patient received 22 pellets over 15 years. The other 232 patients each received the number of pellets as tabulated in Table 4.

When the pellet of estradiol is implanted, the patients are advised of exactly what they are and why they are being given. If the pellets were ineffective in relieving their symptoms, the patients were asked to notify us after three weeks. If they were effective, the patient was asked to return for another pellet if and when her symptoms recurred. As noted in Table 4, 58 patients received only one pellet and 40 received only two. As time passes after their original implant, many patients simply do not return for repeated implantations. While there are undoubtedly many different reasons for this, it is assumed that most patients' symptoms are simply not severe enough to motivate the patient to seek continued relief.

TABLE 3
INDICATIONS FOR ESTROGEN PELLET IMPLANTS

Flushes and flashes	114	Headaches	11
Dry Vagina	51	Depression	11
Nervousness	31	Insomnia	7
Backache	13	Formication	2

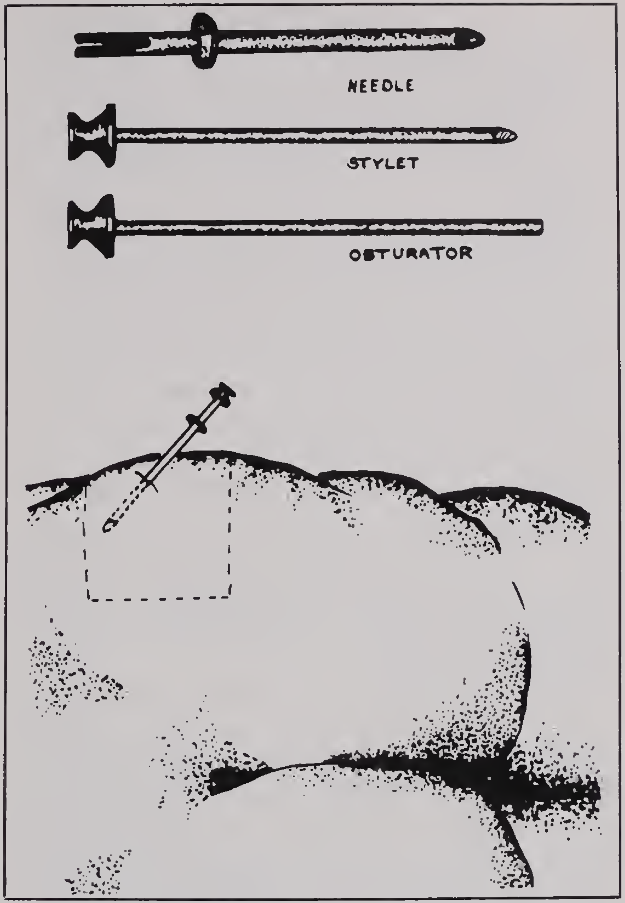

Fig. 1 Kearns Pellet Implanter and insertion site.

TABLE 4
NUMBER OF IMPLANTS PER PATIENT

No. of Pellets Implanted	*No. of Patients*	*Totals*
19	4	76
17	4	68
16	4	64
15	3	45
14	7	98
13	8	104
12	7	84
11	6	66
10	7	70
9	10	90
8	8	64
7	5	35
6	6	36
5	13	65
4	14	56
3	25	75
2	40	80
1	58	58

Total number of pellets implanted — 1,281.

This report documents the use of 1,281 estradiol pellets implanted in 234 women following hysterectomy during the last 20 years. The experience with this modality as reported in 29 other publications is also thoroughly reviewed. The implantation is accomplished in the physician's office. Side effects were minimal and no cases of endometrial or breast cancer could be attributed to the implants. Thus, the authors believe that this form of estrogen has been judged to be effective, safe, convenient and less expensive than oral therapy.

The authors are in private practice.

Seventeen patients who had one or more implants ultimately expressed a preference for oral therapy, and we were happy to respect that preference. (None were given estrogens by any other parenteral route.)

Bécause of concern about the potential carcinogenicity of estrogens and despite the 40 years of safe experience in the thousands of cases referred to above, the U.S. Food and Drug Administration (FDA) notified the Schering Corporation in 1978 that it must either obtain a New Drug Application (NDA) for its estradiol (Progynon) pellets or remove them from the market. In January, 1980, the FDA advised Schering that the evidence it submitted in support of this NDA was not approvable, and Schering removed their Progynon Pellets from the market.

Since then, we have been unable to secure estrogen pellets and, for this reason, have not implanted any. Some patients continue to return to our office to request pellet therapy and others phone to see if they are again available. One patient wrote to her congressman expressing her anger at the FDA's decision.

In its 1981 Annual Report,[30] The Gynecologic Practice Committee of the American College of Obstetricians and Gynecologists published an opinion of the Subcommittee on Reproductive Endocrinology that stated, "Estrogen pellets should remain available and approved for use." This opinion was based on findings gleaned from 125 questionnaires completed by reproductive endocrinologists in the United States and Canada.

Advantages of Pellets Vs Oral Estrogens

Cost

For many years, Progynon Pellets containing 25 mg of estradiol were available for $9 each. We charged patients $25 to implant them, but we included a breast, pelvic and rectal examination before each implantation as well as a finger-stick hemoglobin and a dip-stick urinalysis (for sugar and albumin). We also recorded their weight and blood pressure.

During the last two years in which we implanted them, the pellets cost us first $11 and then $13, whereupon we increased the cost of the above services to $30. The pharmacy in our office building charges $8 per 100 for the 1.25 mg size of generic conjugated estrogens, $6 per 100 for the .625 mg size, and $5 per 100 for the .3 mg tablets. Conjugated estrogens (Premarin) are sold for 50% more in each case.

Thus, it is apparent that if oral medication is substituted for an annual pellet implant, the cost of the tablets alone is essentially the same as the pellet implant. This cost, however, does not include physical evaluation.

Office Visits Required

Indeed, the fact that "hormone pills" prescriptions are often refilled repeatedly without patient consultation or examination can be a serious disadvantage of their use. Pellet implantation on the other hand, requires that the pateint be seen and examined before reimplantation, making it possible to withhold estrogen if it appears to be contraindicated. Obviously, such patient contact also offers the opportunity to discover other manageable medical problems common in this age group, such as hypertension, diabetes and neoplastic disease.

Convenience

To be effective, oral estrogen therapy requires taking pills daily for five or seven days per week or 21 of 28 days per month, depending on the individual gynecologist's preference and therapeutic philosophy. Moreover, if interrupted therapy is used (especially the "21 of 28 days" routine), patients have symptoms during the week in which they are not taking estrogen. The convenience of a single implant every nine to 15 months is readily apparent, to say nothing of the remarkably even absorption. Since we do not administer estrogens by hypodermic injection, we will not dwell on this mode of therapy. It is obvious, however, that an injection every three or four weeks has to be much less convenient and much more expensive than an annual implant, to say nothing of the "peaks and valleys" in the patients' symptoms resulting from this therapy or of the psychological dependence upon "the needle" that these patients can develop.

On a rare occasion, of course, the rapid elimination of oral estrogen may be an advantage if a condition such as thrombophlebitis or estrogen-receptor-positive breast cancer develops. We have not encountered these conditions and, in these 1,281 implantations, have never observed an indication to remove any of the implanted pellets.

Complications and Side Effects

After 1,281 implantations, infection was noted only five times at the implantation site. None were serious and all responded to antibiotics and soaks.

Transitory mastalgia was recorded after 12 implants but subsided after two or three weeks.

Since none of our patients possessed uteri, there was no vaginal bleeding and, obviously, no endometrial carcinoma. Patients who had had extirpative surgery for endometriosis did not display recurrent disease.

Eight of these patients were noted to have hypertension. One patient died of leukemia.

Carcinoma of the breast was found in two women in our series. The details follow:

1. A 41-year-old para II had an abdominal hysterectomy for fibroids in May, 1962. On May 8, 1967, she had a single implant of 25 mg of estradiol for atrophic vaginitis and backache. On Sept. 8, 1967, a small lump was noted in the upper outer quadrant of her right breast. Biopsy showed ductal carcinoma and she had a radical mastectomy. All nodes were negative. The patient is still living and well although, in June of 1981, she underwent an abdomino-perineal resection for a new carcinoma (of the rectum).
2. The patient was 51 years old and para 0 on May 3, 1977 when she had a total abdominal hysterectomy and bilateral salpingo-oophorectomy (TAH/BSO) for huge fibroids. She had a single pellet of 25 mg of estradiol implanted at that surgery. On April 25, 1981, a 2 cm lump was removed from her right breast. It was also ductal carcinoma with no positive axillary nodes. She had a modified radical mastectomy and is doing well thus far.

Since each of these patients had only one pellet implanted and the cancers were found four months and four years later, respectively, it seems most unlikely that the implanted estrogen pellet could be causally related.

Moreover, the occurrence of two cases of breast cancer in 234 women of ages 20 to 70 is less than the expected incidence of this disease in the same population at large (7%).[31]

Summary

1. The records of 234 hysterectomized patients who had 1,281 implantations of pellets of estradiol are reviewed and represent the largest number so treated to be reported.
2. Single pellets containing 25 mg of estradiol were implanted, prophylactically at surgery or therapeutically in our office.
3. In the therapeutic group, most of the patients had satisfactory relief of symptoms as attested by their return to request repeated implantations.
4. Most of these patients preferred to have a pellet implanted every nine to 15 months rather than take pills or "hormone shots."
5. Complications and side effects were negligible.
6. Breast cancer was subsequently found in two of these patients but could not be related to the therapy.
7. In our experience, estrogen pellet therapy was effective, apparently safe and less expensive than oral or injectable estrogen therapy.
8. With the evidence of thousands of implants given over 40 years to document their safety and effectiveness, it is regrettable that estrogen pellets have been removed from the market. Hopefully, they will again become available.

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Chemonucleosis

(Continued from page 737)

cy of chymopapain compared to surgery; and the unknown issues in regard to potential long-term problems, chymopapain should be used only by those surgeons who, from experience and training, understand the diagnosis of ruptured lumbar intervertebral disc disease and are acquainted with all forms of treatment of the disease including surgery.

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> I tell the truth, not as much as I would but as much as I dare — and I dare more and more as I grow older.
>
> —Michel de Montaigne
> "Essays, III," 1588

GARY J. PETERSON, M.D., *St. Louis*

Carotid Endarterectomy Using Local Anesthesia

Seventy-three consecutive elective carotid endarterectomies performed by vascular fellows or senior residents are reviewed. For patients with need for a shunt based on neurological change, their technique was to perform carotid endarterectomy with the patient under local anesthesia. Results indicate that acceptable results can be obtained when vascular trainees perform the procedure in this manner. Optimal use of a shunt helps the surgeon to become acquainted with this technique yet minimizes the complications associated with the use of a shunt.

Dr. Peterson is from the Department of Surgery, St. Louis University School of Medicine.

Carotid endarterectomy can decrease the incidence of stroke in properly selected patients.[1-3] In order to optimize the benefits of this choice of therapy, the complications related to performance of this operation must be minimized. Thus, prevention of neurological complications related to carotid endarterectomy is of utmost importance. This is done by proper selection of patients and by techniques to avoid embolization and creation of an intimal flap or a narrowed arteriotomy closure. Of more importance is the assurance of adequate cerebral perfusion during endarterectomy.

Controversies exist in regard to the best means of cerebral protection. Currently, the methods advocated to assure adequate cerebral perfusion are (1) routine use of an internal shunt, (2) selective use of an internal shunt based on a measured mean stump pressure below 50 mmHg or (3) by the performance of carotid endarterectomy with the patient under local anesthesia and with the use of a shunt based on neurological change during a test arterial occlusion. Very good results from each method are reported.[4]

This report evaluates the reliability of quantitative stump pressure measurements as an indicator of the need for internal shunting by comparing pressure measurements to neurologic status during test occlusion.

Methods

This report constitutes a retrospective analysis of 73 consecutive carotid endarterectomies. Each operation was performed by a peripheral vascular trainee. All patients were men whose ages ranged from 42 to 84 years with a mean age of 64.1. All patients had aortic arch angiography. Related illnesses included coronary artery disease (myocardial infarction, angina or coronary artery bypass grafting) in 40 patients (54.8%); peripheral vascular disease (claudication and/or absent pedal pulses, or history of other peripheral vascular operation), 32 (43.8%); diabetes mellitus, 12 (16.4%); hypertension, 46 (63%); and those caused by smoking, 67 (91.8%).

The most common indication for carotid endarterectomy in this group of patients was: transient ischemic attacks, present in 49 patients (67.1%), 25 of which were of the amaurosis fugax type. Some patients had both eye and extremity symptoms. Other indications included stable stroke (at least six weeks after the incident, 7 (9.6%) and asymptomatic stenosis, 17 (23.3%), either prior to another major operation or as a significant incidental finding on a previous aortic arch angiogram.

Technique

Fentanyl and droperidol are given intramuscularly as premedication. In the operating room after routine positioning of the patient and preparation of the operative site, local anesthesia is administered with 1% plain lidocaine. Additional medication is given as necessary at some time near the beginning of the operation. Dissection is then carried out in the standard manner. The carotid sheath and bifurcation are injected with an additional local anesthetic.

After isolation of the vessels and after adequate heparinization (1 mg/kg), pressure measurements are recorded. A 21-gauge needle is inserted into the common carotid artery in line with the planned arteriotomy and the pressure is recorded. Clamps are then applied to the common and external carotid arteries, and the superior thyroid artery and internal carotid artery stump pressure is measured. With all vessels clamped, the patient's hand-grasp and mental status are checked every 15 to 30 seconds. After four minutes, or if neurological change occurs, the blood flow is restored first through the external and, subsequently, to the internal carotid artery. After several minutes, endarterectomy is performed with or without a shunt based on the previous neurological testing only, but not on any particular level of stump pressure or previous history of stroke. Additional subcutaneous lidocaine is used for closure.

Blood pressure is monitored continuously by an intra-arterial catheter, and blood gases are checked periodically to assure normal PO_2 and PCO_2. Patients are then observed overnight in the surgical intensive care unit.

Results

In this group of patients, there were no deaths. There was one mild, permanent neurological deficit. Three patients developed transient neurological deficits postoperatively and they will be discussed later. Thus, all patients but one were improved or remained asymptomatic (98.6%) at discharge from the hospital. Of the 73 cases, only 13 (17.8%) required the use of an internal shunt during carotid endarterectomy. The average stump pressure in the group without a shunt was 44 mmHg, range 13 to 93. When a shunt was needed, the average stump pressure was 28.3, range seven to 54.

Three of 17 patients in the asymptomatic stenosis group needed shunts; no complications occurred in this entire asymptomatic stenosis group.

Of those patients with stump pressure higher than 50 mmHg, only one in this group needed a shunt. Thirty-seven of the patients (50.7%) had stump pressures lower than 50 mmHg and did not need a shunt.

Of the group with a stable stroke, five of seven patients did not need a shunt.

An interesting subgroup of 17 patients (24.3% of the whole group), whose opposite internal carotid artery was occluded, was analyzed. The average stump pressure was 33.5 mmHg, range 13 to 60. Although 35% of this group needed a shunt, 65% did not need a shunt (11 of 17), even though the opposite internal carotid artery was occluded.

No intraoperative neurological deficits occurred since all patients had the same neurological status after the operation as prior to the operation. However, acute hemiplegia developed in three patients at one, four and 24 hours after carotid endarterectomy. Each of these patients recovered promptly after an immediate reoperation and a thrombectomy and had no permanent neurological deficit. One additional patient, who was hypertensive, had mental status changes that cleared when the blood pressure returned to normal. One patient had persistent numbness of the arm that began one week postoperatively.

During this time, there were no instances in which carotid endarterectomy could not be performed with the patient under local anesthesia.

Comments

Carotid endarterectomy can be performed with minimal morbidity and mortality. This is perhaps best exemplified by the reports from Thompson.[4] Others have not had as good results.[5] Although Thompson obtained these results with the routine use of a shunt during carotid endarterectomy, the results reported by Prioleau *et al*[6] may be more representative of the overall results of those surgeons who use this technique. Prioleau described a series of 253 operations performed by 15 surgeons. There was a 9.5% incidence of stroke in 137 shunted cases and a 0.9% stroke incidence in 116 operations done without a shunt. Prioleau concluded that the use of a shunt did not protect the patient against stroke. It seems on the contrary that the use of the shunt by some surgeons may increase the incidence of stroke. This may be from embolization at the time of insertion from emboli later from thrombus formation on the shunt, or from raising an intimal flap. Also, adequate endarterectomy may be made somewhat more difficult by the presence of a shunt.

Since as many as 80% of patients (82.2% in the present series) may not need the added cerebral perfusion provided by the use of a shunt, selective use of a shunt has been advocated. When carotid endarterectomy is performed with the patient under general anesthesia, the need for a protective shunt is probably best based on the level of the internal carotid artery mean stump pressure. Although the best level is debated, the most generally accepted level is 50 mmHg.[7] However, a neurological deficit has occurred in

TABLE 1
CORRELATION OF STUMP PRESSURE AND NEED FOR SHUNT

Indications	*Shunt Used #*	*(Average Stump Pressure mm/Hg)*	*No Shunt Used #*	*(Average Stump Pressure mm/Hg)*
Transient ischemic attacks	8	(32.3)	41	(43.0)
Stable stroke	2	(27.5)	5	(56.0)
Asymptomatic stenosis	3	(18.3)	14	(43.4)
TOTALS	13		60	
Stump Pressures (mm/Hg)				
50 or higher	1	(54)	22	(61.5)
Lower than 50	13	(28.3)	37	(33.4)
Opposite carotid occluded group	6	(32.5)	11	(34.5)

patients with a presumed adequate stump pressure.[8] Also, it should be emphasized that many patients (74% in the present series) with a stump pressure lower than 50 mmHg do not need the use of a shunt for adequate cerebral perfusion. Thus, the complications associated with the use of a shunt can be avoided totally in these patients.

The remaining technique associated with good results is that reported herein. It is the performance of the carotid endarterectomy with the patient under local anesthesia and with the selective use of a shunt based on neurological status during a test occlusion of the carotid arteries. Using this technique seems to avoid the false negative and false positive aspects of the stump pressure measurement and accurately allows minimal use of the shunt. Endarterectomy can be easier only in the 80% of patients who do not need a shunt.

It is also noted that not all patients who have had a previous stroke, with the opposite internal carotid artery occluded or with a certain stump pressure need a shunt (Table 1). Selective shunting can be applied safely to these groups of patients.

Embolization has been indicated as a cause of neurological change following carotid endarterectomy.[9] This could be from manipulation of a diseased artery during dissection or related to the use of a shunt. If the operation is with the patient under general anesthesia, it would be difficult to accurately attribute a neurological change to a specific cause. Whereas, if the patient is awake, one should be able to detect embolization near the time of its occurrence.

It is interesting to note that in the present series no intraoperative neurological deficit consistent with an embolus occurred. Thus, it may be that another benefit of local anesthesia is that it necessitates more gentle dissection by the vasular trainee. Another possibility is that a neurological deficit attributed to embolization during dissection is overstated and may be more related to the use of a shunt. One other advantage of using a local anesthesia when performing carotid endarterectomy is that early postoperative neurological deficit may be more readily detected than when a patient is awakening from general anesthesia. It is hoped that this would lead to earlier correction of a problem before permanent neurological damage that may occur within one hour of the incident. As in the three cases reported herein, early thrombectomy can yield a good result.

The approximate 20% incidence of shunt requirement seems to allow adequate instruction in the performance of this technique.

Summary

In properly selected cases, very good results can be obtained by vascular trainees performing carotid endarterectomy with the patient under local anesthesia and with the selective use of a shunt when the need for a shunt is based on neurological change. This technique allows the optimal use of a shunt to help the surgeon become better acquainted with the technique, yet it minimizes the complications associated with the use of a shunt.

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THOMAS KOBBERMANN, M.D., LARRY STRAUSBAUGH, M.D.,
ANTHONY G. POOLE, M.D. *and* ALFRED S. LLORENS, M.D., *Columbia*

Postpartum Perineal Necrotizing Fasciitis

Case Reports and A Review

NECROTIZING FACIITIS was first described in 1871 by Josef Jones, a military surgeon who encountered several cases during the Civil War.[1] In 1924, Meleney reported 20 additional cases and offered a more complete description.[2] Since then, more than 300 cases have been reported.[3] Most cases have occurred after trauma or surgery and have involved the abdomen or extremities. Perineal involvement in postpartum women has received little attention; in fact, only 13 cases have been reported. This article includes reports of two additional cases in conjunction with a review of the available literature. The importance of aggressive surgical and medical therapy in the management of necrotizing faciitis are emphasized.

CASE REPORTS

Case #1 A healthy, 17-year-old primigravid woman came to the University of Missouri-Columbia Health Sciences Center while in active labor. She was at 40 weeks gestation and had been followed in the prenatal clinic without complications. Her weight was within normal limits. She had an uneventful spontaneous labor of five hours, culminating in an elective, low-forcep delivery of a viable 3,550 gm infant over a midline episiotomy that extended through the anal sphincter (3rd degree). This was repaired with 000 chromic cat gut sutures. Pudendal block anesthesia with 1% xylocaine was used for both the delivery and episiotomy repair. The patient's immediate postpartum course was uncomplicated. Her antepartum hematocrit value was 37%; 24 hours postpartum, it was 31%.

Thirty hours postpartum, the patient's temperature rose to 38°C, but no symptoms other than perineal pain were reported. Subsequently, her temperature remained elevated, ranging from 38.2°C to 39°C. Forty-eight hours postpartum her hematocrit value had risen to 37% and her white blood cell count was 26,000/cu mm with a left shift. Her vulva was described as extremely edematous.

Orally administered ampicillin therapy was started with 1 gm initially and followed by 500 mg every six hours. Several hours later, gentamicin in a dosage of 100 mg intramuscularly was added every eight hours. Seventy-two hours after delivery, her vulva was noted to be not only edematous but also erythematous and slightly indurated. Despite antibiotic therapy, her temperature remained elevated. The hematocrit value had risen to 41% and the white blood cell count to 44,000/cu mm. Eighty-five hours after delivery, she was in shock with no palpable blood pressure. Despite massive fluid replacement with a concomitant increase in her central venous pressure measurement (from 0 to 15 mm H_2O), she remained hypotensive and suffered a fatal cardiopulmonary arrest on the fourth postpartum day.

A postmortem examination showed marked induration and erythema involving the vulvar region with marked, hard induration of the gluteal regions, especially on the right. There was necrosis of soft tissue and abscess formation involving a total volume of 3 ml adjacent to the episiotomy wound. Histological examination of the vulvar and gluteal regions disclosed edema, extensive fat necrosis, inflammatory infiltrates, microabscess formation and vascular congestion. Cultures from these lesions yielded *Clostridium*

This article includes case reports of two patients who had perineal necrotizing fasciitis that occurred in the immediate postpartum period. Both patients died. It also includes a review of 13 cases reported in the medical literature. Ten of these patients died. Postpartum patients with necrotizing fasciitis usually complain of perineal pain and signs of systemic toxicity. Their management requires prompt recognition, immediate surgical debridement and broad-spectrum antimicrobial therapy.

Dr. Kobbermann is Assistant Professor, Department of Obstetrics and Gynecology; Dr. Strausbaugh is Assistant Director, Infectious Disease Division, Department of Medicine; Dr. Poole is Chief Resident, Department of Obstetrics and Gynecology; and Dr. Llorens is Professor and Chief of Gynecologic Oncology, Department of Obstetrics and Gynecology, University of Missouri-Columbia Health Sciences Center.

perfringens, Escherichia coli, an alpha-hemolytic *Streptococcus sps*. and *Staphylococcus epidermidis*.

Case #2 A healthy, 29-year-old, primigravid woman came to the University of Missouri-Columbia Health Sciences Center in active labor. She had been observed in the University prenatal clinic to have no complications throughout her pregnancy. Labor was spontaneous, lasting eight hours and 35 minutes. She delivered a viable 3,150 gm infant by elective outlet forceps over a midline episiotomy that extended into the capsule of the rectal sphincter. The anesthesia was pudendal block with 1% chloroprocaine hydrochloride. Her immediate postpartum course was uncomplicated; her postpartum hematocrit value was 43%. She remained afebrile and was discharged from the Center on the second postpartum day.

Fifty-four hours after delivery, she noted swelling of her left labium majus and minus and a rash on the inner aspect of her thigh. She was readmitted to the hospital. Her temperature was 38°C. A physical examination disclosed an edematous left labium majus and serosanguinous discharge oozing from the slightly open episiotomy wound. Ecchymotic lesions were noted on the inner aspect of both thighs. Her white blood cell count was 27,000/cu mm and her hematocrit value was 42%. A tentative diagnosis of erysipelas was made and intravenous methicillin therapy was initiated with 1 gm every six hours.

A repeat examination 76 hours postpartum disclosed an erythematous macular rash on the chest and periorbital edema. Her temperature had risen to 38.8°C. These findings raised concern about an allergic reaction to methicillin. Accordingly, methicillin was discontinued and erythromycin therapy in the same dosage was started. Nevertheless, the patient's condition deteriorated.

Twelve hours later, she was hypothermic (35.1°) and in shock (blood pressure unobtainable). At this time, the following laboratory values were obtained: white blood cell count, 71,000/cu mm; hematocrit, 59%; platelet count, 14,000/mcl; fibrinogen, 167 mg/dl. Arterial blood gas determinations revealed a pH of 7.33; pO_2 of 49 mm Hg; and pCO_2 of 30 mm Hg on room air. A repeat physical examination demonstrated induration and edema extending outside the perineum to both inner thighs and abdomen (Fig. 1).

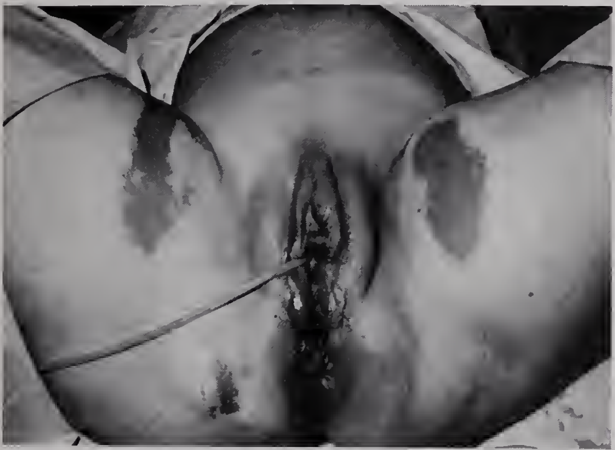

Fig. 1 Perineum of patient in Case #2 as it appeared just prior to surgery. Vulvar edema and ecchymotic lesions on both thighs are conspicuous.

A diagnosis of perineal necrotizing faciitis was made. Intravenous chloramphenicol (1 gm IV), tobramycin (80 mg IV), and methyl prednisolone (2.0 gm IV) were administered. Since the central venous pressure was 0 cm H_2O, vigorous fluid replacement therapy also was initiated.

The patient was taken to the operating room, where extensive debridement of all necrotic tissue was attempted. She suffered a cardiopulmonary arrest but was resuscitated. Debridement required excision of the skin and subcutaneous tissue of the abdominal wall to the umbilicus, the external genitalia, the anus, and one half of the inner thigh (Fig. 2). All of the debrided tissue was necrotic and crepitant. No muscle involvement was grossly apparent.

Fifteen minutes after completion of the debridement, the patient suffered a second cardiopulmonary arrest and died. A postmortem examination was not obtained, but histopathological examination of the debrided tissue demonstrated acute faciitis with areas of necrosis, inflammation, hemorrhage and microabscesses.

Cultures of the surgical specimen yielded a nonenterococcal Group D *Streptococcus sps*., *C. perfringens, Streptococcus pyogenes, E. coli* and *Lactobacillus sps*.

Discussion

Necrotizing fasciitis is an uncommon, severe infection involving skin, subcutaneous tissue and fascia.[4] It is characterized by extensive tissue necrosis, marked systemic toxicity and often a rapid-

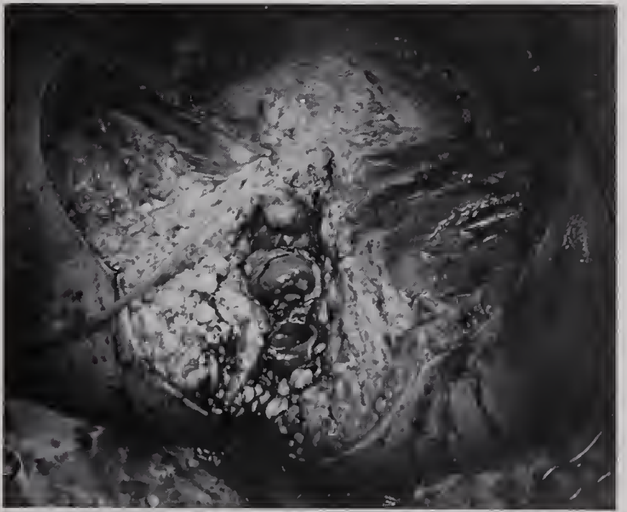

Fig. 2 Perineum of patient in Case #2 as it appeared after surgical debridement. Vulva and anus as well as necrotic skin and subcutaneous tissue of the abdominal wall and thighs have been excised.

ly progressive course terminating in death. Necrotizing faciitis occupies an intermediate niche on the continuum of severe necrotizing soft tissue infections.[5] From an anatomical viewpoint, it is distinguished from less extensive infections that involve only skin and subcutaneous tissue (clostridial cellulitis and nonclostridial anaerobic cellulitis) and from more extensive infections that involve muscle (gas gangrene, streptococcal myositis and synergistic necrotizing cellulitis).

Although Meleney's classic description[2] of this entity in 1924 emphasized the etiological role of the beta-hemolytic streptococcus, it is now apparent that a variety of microorganisms may participate in this disease process. Most cases of necrotizing fasciitis have a polymicrobial cause.[6] Aerobic gram-positive cocci (*Streptococcus* and *Staphylococcus*), aerobic gram-negative bacilli (*Escherichia coli*, *Klebsiella*, *Serratia*, etc.), and anaerobic bacteria (*Bacteroides*, *Peptococcus*, *Clostridium*, etc.) are commonly isolated from infected tissue in a variety of combinations. The participation of *Clostridium*, even *C. perfringens*, is noteworthy because this organism is more commonly associated with clostridial cellulitis, a less severe infection that does not involve the fascia, and gas gangrene that involves muscle.

Our two patients and the 13 postpartum patients with perineal necrotizing fasciitis previously reported in the medical literature had multiple bacterial species isolated from their wounds (Table 1). *Clostridium sps*. were isolated from eight of the 15 patients. Since most organisms isolated from these patients constitute the normal bacterial flora of the colon, it is easy to postulate that their episiotomy wounds were seeded with fecal material.

The third- and fourth-degree extensions of the episiotomy noted in our patients and seven of the reported patients may have facilitated this process. It is also reasonable to postulate that soft tissue trauma sustained during childbirth contributed to the development of this infection. Trauma is a well-recognized antecedent in other types of necrotizing fasciitis.[3]

The observation that 11 of the 15 cases were primigravidas and that forceps were employed in seven cases adds some support for this hypothesis. However, the rarity of this condition suggests that either the trauma sustained or the degree of fecal contamination were unusually severe. Risk factors associated with other types of necrotizing fasciitis such as advanced age, malnutrition, atherosclerosis and diabetes mellitus appear not to have played a role in these postpartum cases.[7] In general, these were young women (mean age 22 years) who appeared healthy otherwise and free of significant, underlying disease.

Our two cases of postpartum perineal necrotizing fasciitis resemble those previously reported in several respects. Their infections became manifest early in the puerperium. In the 13 reported cases, infection was noted within five days of delivery and infection appeared on the second or third postpartum days in ten of the patients.[8-10]

Our patients' initial complaints of fever and labial or vulvar swelling were similar to those in the reported cases. The initial physical findings and marked leukocytosis were also representative. Their course with rapid deterioration, marked systemic toxicity, multiple-organ failure, and signs of advancing infection in the perineum was typical. Despite broad spectrum antimicrobial therapy and extensive debridement in one case, both of our patients succumbed to their infections. This outcome has been the rule in reported cases; all but three have died. Those surviving experienced considerable morbidity from their extensive debridement and prolonged hospitalizations.

What lessons can be learned from this review? First, necrotizing fasciitis can occur in postpartum patients. The physician who appreciates this fact also understands the importance of careful examinations of the episiotomy wound in patients who have a fever and complain of perineal pain. Secondly, necrotizing fasciitis must be recognized early and treated aggressively to preserve the patient's life. Systemic toxicity and a marked leukocytosis in the presence of any wound abnormality suggest the diagnosis. Recognition may require several examinations during the first few hours after presentation, with close attention paid not only to the wound but also to the patient's vital signs and general appearance.

Once recognized, this condition requires immediate surgical debridement.[4, 10] This approach includes aggressive incision and excision of all involved areas. In preparing the patient for surgery, fluid resuscitation and cardiorespiratory stabilization are appropriate as is the administration of antimicrobial therapy. These preparatory measures cannot be allowed to delay surgery.

In light of the polymicrobial etiology of this infection, the administration of benzylpenicillin or ampicillin, clindamycin and an aminoglycoside antibiotic is recommended.[4] Gram stains and cultures of tissue specimens obtained in the operat-

TABLE 1
PERINEAL NECROTIZING FASCIITIS IN POSTPARTUM PATIENTS

Case	*Age*	*Parity*	*Type of Delivery*	*Type of Episiotomy*	*WBC/ cu mm*	*Antibiotic Therapy*	*Surgical Intervention*	*Organisms Isolated*	*Outcome*	*Reference*
1	30	1	Spontaneous vaginal	Median with 4th degree	38,000	Cephalothin Penicillin Chloramphenicol	None	Anerobic strep & *E. coli*	Died	10
2	15	not known	"Difficult outlet forceps"	Median with 4th degree-multiple vaginal lacerations	not reported	"Multiple antibiotics" Metronidazole	Extensive debridement	*E. coli* Klebsiella Pseudomonas Proteus *Bacteroides Fragilis* Peptococcus Peptostreptococcus	Lived	10
3	23	2	Spontaneous vaginal	Median with 3rd degree	not reported	Chloramphenicol	Extensive debridement	*Clostridia sordilli*	Died	10
4	23	1	Spontaneous vaginal	Median & 1 cm. tear over right spine	32,000	Ampicillin & Cleocin Hyperbaric Oxygen Chloramphenicol	Opened & drained on P.P.D#3	*Clostridia perfringens*	Died	8
5	21	1	Spontaneous vaginal	Median	23,500	Multiple antibiotics	Opened & drained on P.P.D.#3	*E. coli*	Died	8
6	22	Multipara	Low forceps	Median	30,000	Multiple antibiotics	Opened on P.P.D.#9	*E. coli* Bacteriodes sp.	Died	8
7	20	1	Mid forceps	Median with 3rd degree left vaginal wall laceration	39,000	Oral Ampicillin I.V. Penicillin Chloramphenicol	Extensive debridement	*Clostridia Sp.* Group A B hemolytic strep *Klebsella sp.* *Bacteroides sp.*	Lived	8
8	19	1	Low forceps	Procto-episiotomy	33,000	Ampicillin Kanamycin Chloramphenicol	Incision & drainage	None	Died	9
9	16	1	Low forceps	Median with 3rd degree	32,500	Carbenicillin Kanamycin Gentamicin	None	Klebsiella Aerobacter Bacteroides	Died	9
10	15	1	Low forceps	Procto-episiotomy	22,300	Penicillin Gentamicin Ampicillin	Incision & drainage	None	Lived	9
11	23	1	Spontaneous vaginal	"Episiotomy"	21,500	"Intravenous antibiotics"	None	Clostridia	Died	9*
12	30	2	"Uneventful"	Median with 4th degree	not reported	Multiple antibiotics	None	None	Died	9*
13	19	1	"Uneventful"	Left mediolateral	not reported	"Triple antibiotics"	Incision & drainage	*E. coli* nonhemolytic streptococcus *Clostridia perfringens*	Died	9*
14	18	1	Spontaneous vaginal	Median with 3rd degree	123,000	Oral Ampicillin IV. Ampicillin & Gentamicin	None	*Clostridia perfringens* *E. coli* alpha streptococcus *Staphylococcus epidermidis*	Died	†
15	29	1	Outlet forceps	Median	71,000	Multiple antibiotics	Extensive debridement	Group D Streptococcus, *Clostridium perfringens* Lactobacilus Group A B hemolytic Streptococcus *E. coli*	Died	†

* Reported in discussion of article.
† Current report.

ing room, optimally obtained beneath intact skin several centimeters from any associated open wounds, may later dictate changes in this regimen.

The principles of management outlined above have proven effective in many forms of necrotizing fasciitis and their application offers the postpartum patient the best chance for survival. This approach appears to have contributed to the survival of three patients discussed in this review (Table 1). Its failure in some of the other cases and in our second case appears to be related to the advanced state of deterioration present at the time of the operation. The physician's challenge is to recognize the disease and institute treatment before patients reach this advanced stage.

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Reprints: *Alfred S. Llorens, M.D.*
Dept. of Obstetrics/Gynecology
University of Missouri
N625 Health Sciences Center
Columbia, MO 65212

Carotid Endarterectomy

(Continued from page 745)

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Reprints: *Gary J. Peterson, M.D.*
Dept. of Surgery
St. Louis University
School of Medicine
1325 S. Grand Blvd.
St. Louis, MO 63104

In Memoriam

Victor Buhler, M.D., 2510 Grand Ave., Apt. 1004, Kansas City 64108; graduate of the University of Kansas, 1934; member of Jackson County Medical Society; aged 74; died Oct. 5, 1983.

Lawrence A. Pilla, M.D., #7 Homeland Pl., St. Louis 63109; graduate of St. Louis University, 1945; member of St. Louis Metropolitan Medical Society; aged 62; died Oct. 8, 1983.

Herbert Sweet, M.D., 3 St. James Ct., St. Louis 63119; graduate of the University of Michigan, 1937; member of St. Louis Metropolitan Medical Society; aged 72; died Oct. 11, 1983.

Benjamin F. Byland, M.D., Post Office Box C, Maryville 64468; graduate of Washington University, 1930; member of Northwest County Medical Society; aged 79; died Oct. 21, 1983.

President's Message

MISCELLANY:

Many physicians were concerned when the World Health Organization announced the end of smallpox as a world problem and recommended discontinuing smallpox vaccination. Twenty-five years without vaccination would leave a population completely vulnerable to the military use of smallpox to devastate a population. The recent development of a hepatitis vaccine utilized a genetic manipulation of the virus used in smallpox vaccine. Is it possible that we will again be vaccinating for smallpox effectively, as well as hepatitis?

A group of lawyers have become aware of the diagnosis: tardive dyskinesis. They seem to feel that use of neuroleptic medication is tantamount to malpractice. Some of us remember the state-operated psychiatric hospitals and the number of patients with facial-lingual dyskinesia before the advent of chlorpromazine. We also remember the personal and family agony when patients were separated from their families and communities, frequently requiring locked restraints. The neuroleptic medications have been humanely, medically, socially and economically very helpful in managing this group of medical-psychiatric patients. Certainly, neuroleptic medications should be used appropriately and with caution, but they are exceedingly useful and a valuable group of medications. Are we again seeing medical practice manipulated by poorly informed public opinion organized to function as a political interest?

Ronald A. Youmans, M.D.

The generous "cost" reimbursement to hospitals under Medicare has brought the fund to near catastrophe. Would *specific funding* for particular projects be helpful in protecting the large group who require more usual medical care? If the renal dialysis-transplant program, liver transplant program or other specialty programs were independently funded this might better reflect public interest.

The "cap" on the physician charge for Medicare patients still seems very arbitrary. Inflationary office and other expenses continue. The cost of medical liability continues to rise faster than inflation, even when caring for Medicare patients. A relative value scale with the indemnity concept would be a very important change. Let your legislator know!

The TEFRA legislation of 1982 is law and is still being implemented. It was passed in less than four months, not through the usual committee routes that would evaluate impact and clarify problems. The Rules and Regulations are far behind schedule.

The physicians' services are being marketed by third parties and insurance companies from coast to coast. They have beautiful new offices and large personnel payrolls that do not contribute to quality medical care. The federal government regulations on Medicare increase the costs by 25% to 30%. Delayed access to medical care and less-than-optimal facilities will be developing problems, while physician distribution continues to be a problem, especially in smaller communities.

The Kansas City Business Journal recently ran an editorial entitled "Do we really want Grenada's doctors?" The author reviewed the general organization of the medical school with its marginal facilities and concludes: "Physician, heal thyself!" It is an interesting predicament. The AMA has favored enlarging American medical schools rather than encouraging "foreign" schools for American citizens. Now the funding pressures are restricting our medical schools and apparently encouraging the "foreign" schools. These have been political and governmental funding pressures. Most American physicians have been strongly supportive of a top-quality continental medical school system. And the number of physicians does not solve the distribution problem. Can you really do the quality practice you would like in a small community with less than optimal facilities without risking greater medical liability?

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MSMA
Auxiliary

As the calendar year of 1983 is drawing to a close, we have many accomplishments and many unfinished tasks. Many of the latter will be accomplished in the year and others added. As the holiday season is upon us, may we all be —

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A ware
S incere
O utgoing
N eighborly and Nuturing
S elfless

G enerous
R ewarding
E nduring
E ncompassing
T houghtful and Thankful
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Mrs. Donald Sanders
President

From all of us to all of you —
A VERY HAPPY HOLIDAY SEASON and
A REWARDING NEW YEAR.

medical melange

Notes of interest from Here . . . . and There

Dr. F. L. Thompson of Nevada (Mo.) has been named one of the Outstanding Young Men of America. His civic services include membership in the Rotary Club with board membership in 1981-1983, chairman of club service in 1981-1983 and civic and charity committee chairman. He has served as chairman of the Nevada Bushwacker Days Baby Contest and was a cast member of the Community Council for the Performing Arts. Dr. Thompson is a member of numerous medical organizations and is presently a member of the Missouri State Medical Association's Commission on Medical Economics, Third Party Medicine and Governmental Relations.

Dr. Paul Barone, who was superintendent of the Nevada State Hospital for 44 years, was honored for his service recently by the Missouri Mental Health Commission at a special luncheon at the hospital. Dr. Barone retired as superintendent on July 1.

Dr. Ronald F. Elkins, Springfield, was honored for 20 years of service with the Red Cross by the American Red Cross Greene County Chapter and Springfield Regional Blood Services on October 14. Dr. Elkins has served as acting medical director for the Blood Service Program and as a volunteer physician with the regional bloodmobiles. A plaque presented to him by **Ms. Anna Johnson** who is administrator for the blood services, cited Dr. Elkins for always being "a leader in the medical community in support of the Red Cross and its services to the community."

Dr. Wilber B. Spalding, Kansas City, was recently elected president of the Missouri State Board of Registration for the Healing Arts. Dr. Spalding has been a member of the State Board since 1979. He served as secretary of the organization last year. His one-year term as president will run through June, 1984.

Dr. George Comfort, Mexico, recently returned from Zaire where he spent six weeks in the mission field. He worked in three different hospitals while there and lived at the mission station, which is comfortable housing built by the Belgians. Dr. Comfort has reported that there is some malnutrition among the people there and problems with abscesses are common as well as broken bones and trauma from accidents and burns. He added that their most common ailments are infectious diseases, malaria, tuberculosis and intestinal parasites.

A WORD TO THE WHYS

WHY AMA? Thanks to the Patient Medication Instruction program newly launched by the AMA, you can provide your patients with important supplementary drug information. Each patient information sheet (PMI) conveys information most relevant to the patient in easy-to-understand language. Helping your patients toward a better understanding of the drugs you prescribe: it's one more good reason why you should be a part of the AMA.

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To Join, Contact your county or state medical society or write: Division of Membership, AMA, 535 North Dearborn Street, Chicago, Illinois 60610 or call collect, (312) 751-6196.

Special Article

Acquired Immune Deficiency Syndrome (AIDS)

By

WILLIAM L. BAYER, M.D., *Kansas City*
ARTESO C. RABORAR, M.D., *Springfield*
LAURENCE A. SHERMAN, M.D., *St. Louis*

SEX, DEATH AND POLITICS make AIDS a syndrome of great media interest in the United States. By definition, this syndrome does not include children or adults who have congenital defects of their immune systems or diseases that are associated with abnormal immune systems.

AIDS is defined as the occurrence of either a life-threatening, opportunistic infection or the development of Kaposi's sarcoma in a person younger than 60 years old who has no underlying immunosuppressive disease and has not received immunosuppressive therapy (Centers for Disease Control, 1982a). It is associated with abnormal cell mediated immunity.

The syndrome is presumably initiated by a presumptive transmittable agent that initially damages the immune system. The strongest evidence for this is the report of a cluster of Kaposi's sarcoma and *Pneumocystis carinii* pneumonia among homosexual male residents of Los Angeles and Orange Counties, Calif. The time between sexual contact and symptoms in this report was two to 22 months (Centers for Disease Control, 1982b). Based on this type of epidemiological information, there is fear and trepidation that a carrier state might exist that would allow healthy people to transfer the putative agent(s) via blood transfusion.

There are no tests that identify a carrier of AIDS. The tests used for support of the diagnosis, which indicated defects of cellular immunity, are not specific.

AIDS has not been shown to be a significant risk of blood transfusion. The blood collection agencies in the United States, however, quickly implemented a Food and Drug Administration (FDA) recommendation to provide all potential blood donors information about groups at high risk and to ask individuals in any of these groups to voluntarily not to donate (Petricciani, 1983).

The high-risk donor groups were defined as persons with signs and symptoms of AIDS, sexually active homosexual or bisexual men with multiple partners, Haitian entrants into the United States, past or present intravenous drug abusers, and sexual partners of individuals at increased risk of AIDS.

These groups are similar but not the same as the groups said to have AIDS by the Centers for Disease Control (CDC). Table 1 shows the categories of AIDS cases as reported by the CDC in their April, 1983 AIDS Weekly Surveillance Report. The cases in the United States as of September 1983 totaled 2,259. The New York City area reported 42% of the cases followed by San Francisco at 11% and Los Angeles at 7%. The states of New York and California had two thirds of the patients (Centers for Disease Control, 1983). The distribution of cases according to risk groups has remained unchanged.

Most of the male homosexuals who have developed the syndrome have had sexual relationships with multiple partners; a median number of lifetime male sexual partners for these patients is reported as 1,160 (Johnson, 1983). The variable most prominently associated with Kaposi's sarcoma or pneumocystis pneumonia is the number of male sex partners and the meeting of such partners in bath houses. It is of interest that

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Dr. Bayer is Director, Community Blood Center of Greater Kansas City. Dr. Raborar is Medical Director, American Red Cross Blood Services, Springfield; and Dr. Sherman is Chief of Blood Services, Missouri-Illinois Region, St. Louis.

18 of 50 patients having both Kaposi's sarcoma and *Pneumocystis carinii* pneumonia were of Italian, Jewish or Eastern European background (Jaffe *et al*, 1983), the same population in which Kaposi's in elderly men is usually seen.

In a forthcoming report, the CDC describes seven fully investigated cases of AIDS in which the patients had previously received blood transfusions. Six had donors who were from high-risk groups and had nonspecific immune dysfunction. None of these donors had AIDS and a control group of donors was not studied. Although definitive conclusions cannot be drawn, two items may be noted. The first is that if there is a transfusion AIDS link, it is extremely rare since about 12 million patients have received transfusions in the period involved. Secondly, it would appear that the current practice of excluding high-risk donors should be effective in eliminating the potential carriers until a definitive blood test is available.

Only one case (Ammann *et al*, 1983) of AIDS-like symptoms has been connected to a donor who had AIDS, and because the patient was a baby, the case is not reportable as AIDS by the CDC. The donor was well at the time of donation but died of AIDS 17 months later. The baby received blood from 18 donors: six two volume exchange transfusions; five platelet transfusions, including one from this particular donor; and seven partial blood transfusions. Interestingly, there are no reports of any other patients having AIDS from any other portion of this donor's indicted donation or any other he may have made.

The concern that pooled plasma used to prepare coagulation factor concentrates may have an increased risk is based on the information that AIDS developed in 15 hemophiliac A patients, who have used these concentrates. Many other hemophiliacs in whom AIDS has not developed obviously have also received concentrates prepared in the same lots. The concentrates are made in lots with plasma from up to 50,000 donors. The risks of all diseases, particularly hepatitis, are orders of magnitude greater than ordinary blood products. The FDA has examined data from the National Center for Health Statistics for the causes of death among hemophiliacs prior to the appearance of AIDS in the high risk groups. In 101 hemophiliac deaths in 1979, there was one case of cryptococcosis, one of disseminated candidiasis, five of nonspecific pneumonia, one of lymphoma and one of lymphosarcoma (Food and Drug Administration, 1983).

Our Blood Supply Is Safe

Because of the media reaction to AIDS, many patients, their families and physicians have become concerned that they will be at risk if they receive a blood transfusion. This concern has led some to propose that they make directed donations specifically for family members. This proposal would pose an immediate danger to all our patients who require blood transfusions and could jepardize the blood supply.

The directed donor concept presents several frightening aspects and probably offers no increase in the safety of our excellent volunteer blood system in Missouri. Families seeking directed donors cannot eliminate, and perhaps because of the nature of the request might actually increase, the risk that closeted intravenous drug abusers, homosexuals and bisexuals with multiple partners will be coerced into donating.

For this issue, physicians at the Blood Centers of Missouri have written this article that puts AIDS into perspective and shows that our blood supply is safe. Let us continue to support the volunteer blood programs of our state and assure our patients that reasonable action has been taken to maintain a safe, voluntarily donated blood supply for all patients.

R. A. Youmans, M.D.
President, Missouri State Medical
Association

The great attention paid to AIDS has led to several misconceptions in the public and also some health care workers. Firstly, AIDS is basi-

TABLE 1
(CDC) AIDS SURVEILLANCE — APRIL, 1983

Risk Group	Male *Cases*	 *%*	Female *Cases*	 *%*	Total *Cases*	 *%*
Homosexual or bisexual	963	75.6	0	0.0	963	71.2
IV drug abuser	182	14.3	43	54.4	225	16.7
Haitian	63	5.0	7	8.9	70	5.2
Hemophiliac	11	0.9	0	0.0	11	0.8
No risk or unknown	54	4.2	29	36.7	83	6.1

cally a venereal disease and is not transmitted by casual contact. No cases have occurred at transmission of AIDS from patients to their health professionals. AIDS is relatively noncontagious as compared to various infectious diseases. Secondly, the potential slight risk at transfusion has been confused by the public with blood donation. There is no actual or theoretical risk of AIDS from blood donations.

Conclusion

Certainly, it seems sensible to be on the alert for the transmission of any infectious agent in blood even if that agent appears to cause no obvious symptoms. Much more study is needed to decide what relevance, if any, such agents may have. In the meantime, it should always be borne in mind that transfusion is a vehicle for transmission of infection but that, fortunately, disease in the recipients is rare.

As with any therapeutic regime, there are risks and transfusion should only be used when there is a true benefit to be gained by the patient.

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Reprints: William L. Bayer, M.D.
Community Blood Center of Greater Kansas City
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The Midwest Organ Bank Laboratories have changed procedures to provide a less expensive HLA-B27 test. The HLA-B27 test will only check for the presence or absence of the antigen B27. The report will be either B27 positive or B27 negative. This test will include reagents to eliminate confusion with crossreactive antigens that may be mistaken for HLA-B27. The additional antigens tested will include HLA-B7, Bw42, B40, Bw22 and Bw47. All reagents utilized for B27 testing have undergone extensive quality control to ensure potency and accuracy. The charge for this test will be $50.00. The results will be available within 24 hours of the receipt of the blood specimen and, in most cases, on the same day.

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The Organ Bank Laboratories will also continue to offer a disease association test. This test should be ordered for any HLA antigen other than HLA-B27. All antigens known to have a disease association are included in the disease association test. The result will provide a full HLA phenotype, listing the antigens found. The cost of this test will be $90.00.

The Midwest Organ Bank Laboratories typing trays are quality controlled constantly to assure accurate definition of HLA antigens. The Midwest Organ Bank Histocompatibility Laboratory is accredited by the American Association for Clinical Histocompatibility Testing and is licensed under the Clinical Laboratories Improvement Act of 1967 (CLIA).

For additional information, please call the Midwest Organ Bank Laboratories at 816-931-6353.

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Proposed Changes in the MSMA Constitution and Bylaws

The MSMA Constitution specifies that "the House of Delegates may amend any article of the Constitution by a two-thirds vote of the delegates present and voting in any Annual Convention, provided that such amendment shall have been presented in the previous open meeting of the House of Delegates and that the amendment shall have been published twice during the year in the Journal of the Association or sent officially to each component society at least two months prior to the meeting at which final action is to be taken."

The following Constitution and Bylaws amendments were proposed at the 1983 Annual Convention and will come up for final vote at the 1984 Annual Convention.

In accordance with the Constitution, the proposed amendments are published below. **Bracketed words are to be deleted. Underlined words are to be added.**

Constitution

ARTICLE IV

The House of Delegates shall be the legislative body of this Association and shall consist of delegates elected by the component societies as well as all Past-Presidents of the Association, the Speaker and Vice-Speaker and the Deans of each medical school located in Missouri who are members of the Missouri State Medical Association, who shall serve as Delegates-at-Large. It shall elect a Speaker and Vice-Speaker from its body. Its Secretary shall be the Secretary of the Missouri State Medical Association.

ARTICLE V

The Council shall be the executive body of this Association when the House of Delegates is not in session. [It shall be the judicial body of the Association when matters are referred to it for decision by the Association, by component societies or by individual members thereof.] It shall consist of the President, President-Elect, Immediate Past-President, Secretary, Treasurer and the duly elected Councilors from each Councilor District and a duly elected medical student Councilor. A majority of voting members of the Council shall constitute a quorum.

ARTICLE VI

The Judicial Council shall be the judicial body of the Association. It shall consist of five active members nominated by the President and elected by the House of Delegates.

ARTICLE VI

Would become Article VII

ARTICLE VII

Would become Article VIII

ARTICLE VIII

Would become Article IX

ARTICLE IX

Would become Article X

ARTICLE X

Would become Article XI

Bylaws

Chapter III, Sec. 2 (f). All Past-Presidents of the Association, the Speaker and Vice-Speaker and the Deans of each medical school located in Missouri who are members of the Missouri State Medical Association shall serve as Delegates-at-Large.

[Chapter VI. Sec. 4. The District Councilors shall select one of their number who, together with two members of component societies within the Councilor District selected by the District Councilors, shall serve as a Board to hear and, by a majority vote, adjudicate any questions involving the right and standing of members, either in relation to other members or to component societies or to the Association, and all matters of discipline affecting the conduct of members of component societies, or other matters.]

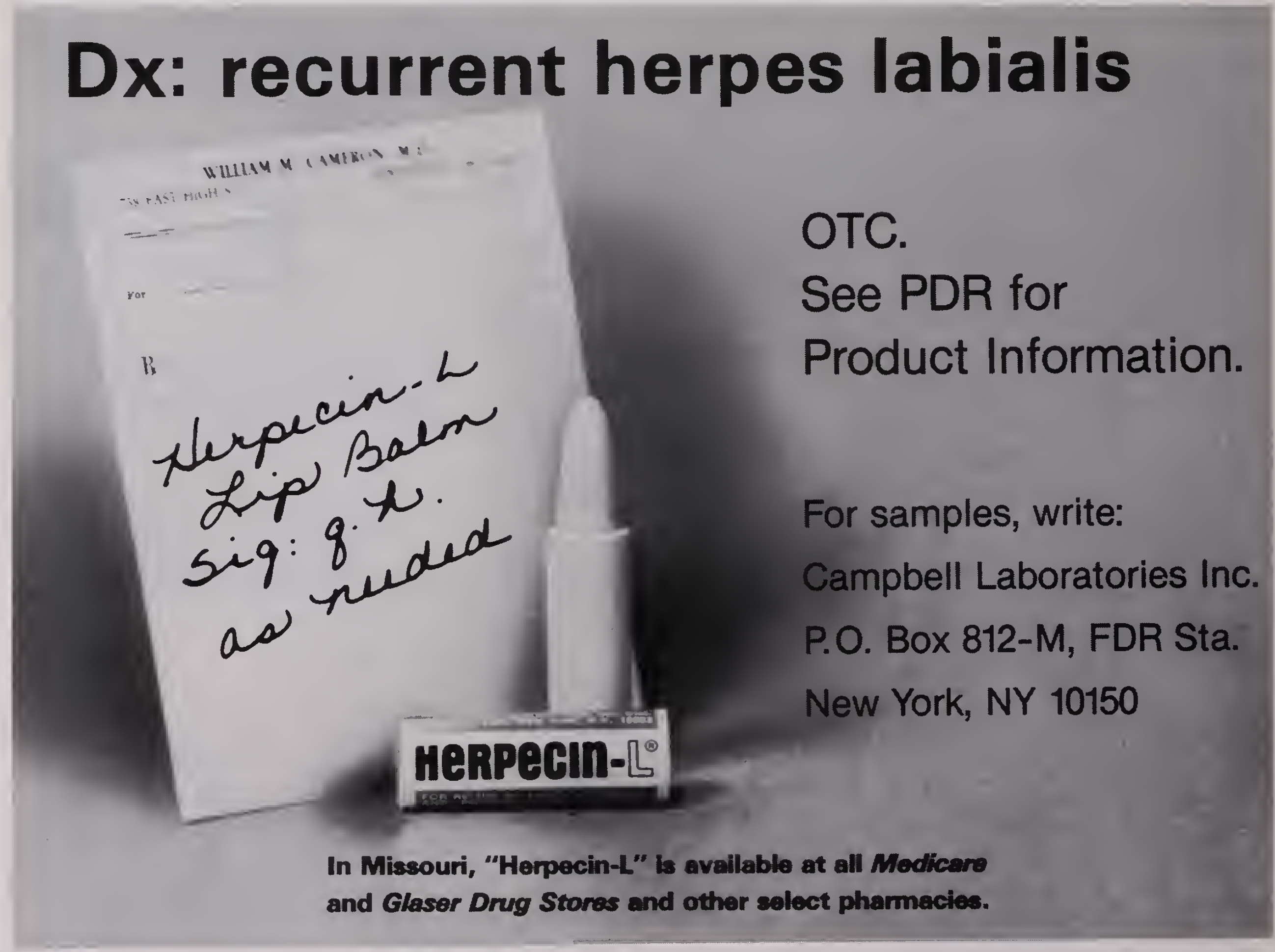
[The Council shall be the appellate Board of Censors of the Association. It shall hear and adjudicate all matters on appeal from the decision of the Councilor Board; it shall hear and adjudicate matters of an ethical nature brought before the House of Delegates or a general meeting and these matters shall be referred to the Council without discussion. On original decision or appellate determination, its decision shall be final unless appealed to the then convened meeting or the next meeting of the House of Delegates.]

Sections 5 through 12 of Chapter VI would then be renumbered accordingly.

Chapter XI, Sec. 1. The Judicial Council shall have original jurisdiction in all questions involving Missouri State Medical Association membership, all controversies arising under the Constitution and Bylaws and under the rules of conduct as outlined in the Bylaws and controversies between two or more component societies or their members. The Judicial Council shall be the judicial authority of the Missouri State Medical Association and its decisions shall be final. The Judicial Council shall also investigate general ethical conditions and matters pertaining to the relations of physicians to one another or to the public and make recommendations to the House of Delegates or the component societies.

Sec. 2. The Judicial Council shall be composed of five members elected to five-year terms. Nominees shall be submitted by the President for election by the House of Delegates. Any vacancy occurring on the Judicial Council shall be filled by nomination of the President and election by the House at its next Convention for the remainder of the unexpired term. The first five members of the Judicial Council shall be elected on a staggered basis: one for one year; one for two years; one for three years; one for four years; one for five years.

Sec. 3. The Judicial Council shall select a Chairman and Vice Chairman and it may adopt such rules and regulations as it deems necessary and appropriate for the conduct of its affairs subject to approval by the MSMA Council.



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Before delivery, **Anusol® Ointment*** rapidly, temporarily relieves the itching, burning, and pain of hemorrhoids of pregnancy and other anorectal disorders. Used concomitantly, **Tucks® Pads** add cooling, soothing comfort to tender anorectal tissues. **Tucks** also serve as a hygienic rectal wipe, gently cleansing away potentially irritating fecal residue.

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***Anusol Ointment contains PRAMOXINE HCl–a non-"caine," topical anesthetic derived from morpholine and generally recognized as safe and effective for external use. Pramoxine is as potent as benzocaine but appears to be less sensitizing. Its distinct structure tends to minimize the risk of cross-sensitivity. Pramoxine acts within three to five minutes, and its anesthetic effect can last as long as several hours. In addition, Anusol Ointment contains emollient, lubricant, wound-healing, and protectant ingredients.**

After delivery, **Anusol Ointment** and **Tucks Pads** work well together to maintain their complementary relief of postpartum hemorrhoids.

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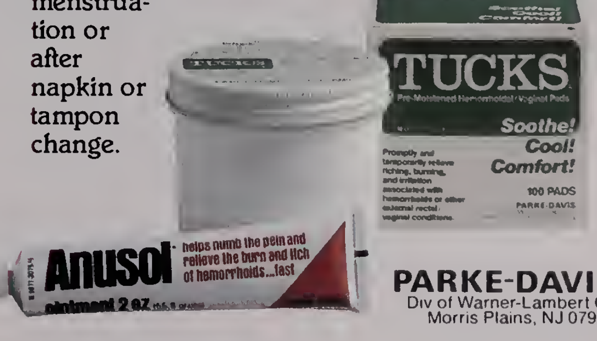
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NEWS About CME Events

The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in Missouri Medicine. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

Menorah Medical Center
4949 Rockhill Rd., Kansas City 64110
(816) 276-8000
Contact: **Erich W. Pollak, M.D., Director of Surgical Education, for the following:**

4:00 PM — Basic Sciences to Surgery Seminar
(Monday through Friday)

3:00 PM — Surgical Rounds
(Every Wednesday and Friday)

4:00 PM — Surgical Techniques Seminar
(Every second and fourth Wednesday)

4:45 PM — Morbidity and Mortality Conference
(Every fourth Wednesday)

8:00 AM — Morbidity and Mortality Conference
(Every second Saturday)

7:00 AM — Surgical Grand Rounds
(First and third Thursdays)

Contact: **David S. Sneid, M.D., Director of Medical Education, for the following:**

9:00 AM — Medicine Staff Conference
(First, third and fourth Tuesdays)

The Edward Mallinckrodt Institute of Radiology — Washington University School of Medicine
510 S. Kingshighway, St. Louis 63110
(314) 367-2131
Contact: **Ronald G. Evens, M.D., Director**

(1984)	
Jan. 9	City-Wide Radiology Conference (St. Louis University)
Feb. 6	City-Wide Radiology Conference on "CT Chest"
Mar. 12	City-Wide Radiology Conference on "NMR"
Apr. 25	Leroy Sante Lecture (St. Louis University)
May 14	City-Wide Radiology Conference on "Angiography and Embolization of Pelvic and Extremity Trauma" (Mallinckrodt Institute, St. Louis)

University of Kansas
Office of Continuing Education
Rainbow at Olathe Blvd., Kansas City 66103
(913) 588-4488
Contact: **Jan Johnston, Promoter Coordinator**

(1984)	
Jan. 27	Joint Practice: What's In It For You?
Feb. 12-18	Contemporary Issues in Obstetrics and Gynecology (Sheraton Hotel, Ixtapa, Mexico)
Mar. 1-2	The Microcomputer Jungle: Impact on Health Care
Mar. 5-6	Annual Cardiology Postgraduate Symposium
Mar. 15	Sports Medicine: Rehabilitation of the Injured Athlete (Westin Crown Center Hotel, Kansas City)
Mar. 15-16	Advanced Trauma Life Support
Mar. 16-17	Midwest Pain Society 8th Annual Meeting: Practical Management of Common Pain Syndromes (Westin Crown Center Hotel, Kansas City)
Mar. 18-25	Review and Update in General Pediatrics and Family Practice (Princess Hotel, Grand Bahamas)
Apr. 5-6	Current Practices in Surgery
Apr. 9-10	Pediatric Emergencies
May 7-8	Total Management of the Acute Myocardial Infarction

Mercy-Baptist Eye Foundation
621 S. New Ballas Rd., Suite 5006, St. Louis 63141
(314) 432-5478
Contact: **Mrs. Judi Kramer, Coordinator**

(1984)	
May 20	17th Eye Seminar — The Retinal, Fluoroscein and Laser

B.A.S.H., Inc.
522 N. New Ballas Rd., Suite 206
St. Louis 63141
(314) 567-4080
Contact: **Felix E. F. Larocca, M.D.**

(1984)	
Apr. 28	Second Bash Conference on Eating Disorders (Saint John's Mercy Medical Center)

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
***Contact:* Alta Bingham**

(1984)

Jan. 14-21	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Steamboat Springs, Colo.)
Feb. 11-18	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Puerto Vallarta, Mex.)
Feb. 24-25	The Long Weekend (Westin Crown Center Hotel)
Mar. 15-16	Critical Care (Alameda Plaza Hotel)
Mar. 17-24	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Breckenridge, Colo.)
Apr. 12-14	Update in Obstetrics-Gynecology (Alameda Plaza Hotel)
May 10-11	Surgical Problems — The Old and The New (Westin Crown Center Hotel)
May 18-19	The Long Weekend (Alameda Plaza Hotel)
June 2	Symposium on Physical Fitness (Hyatt Regency Hotel)
July 27-29	Internal Medicine Update — 1984 (Tan-Tar-A Resort, Osage Beach)

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3853
***Contact:* Loretta Giacoletto, Office of CME**

(1984)

Jan. 8-13	Postgraduate Course in Obstetrics and Gynecology (Keystone, Colo.)
Feb. 9	St. Luke's Clinical Conference (St. Luke's West)
Feb. 11-18	WUMC Annual Clinical Conference (Kona, Hawaii)
Feb. 16-17	Techniques and Technology in Pulmonary Intensive Care
Feb. 25-Mar. 3	Care of the Aging Patient (Hawaiian Islands Cruise)
Mar. 5-May 21	Internal Medicine Review (The Jewish Hospital)
Mar. 16-17	Craniofacial Imaging
Apr. 12-13	Care of the Aging Patient
Apr. 26-27	11th Annual Symposium on Obstetrics and Gynecology
May 3-5	WUMC Alumni Reunion
May 11-12	PNP Update 1984
May 21-25	Diagnostic Interview Schedule Training
Aug. 4-5	Soft Tissue Surgery Workshop
Oct. 15-17	Advances in Scar Revision and Camouflage

Freeman Hospital
1102 W. 32nd, Joplin 64801
(417) 623-2801
***Contact:* Joy W. Barnett, CME Coordinator**

(1984)

Apr. 14	Spring Symposium — Breast Cancer

University of Missouri-Columbia School of Medicine
Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
***Contact:* Weldon D. Webb, M.D., Director**

(1984)

Feb. 8-10	Fourth National Conference on Continuous Peritoneal Dialysis (Westin Crown Center, Kansas City)
Feb. 24-26	Organizational Systems: A conference on authority, role and task in working groups
Mar. 16	Preceptor's Day
Mar. 17-18	Family Practice Update
Mar. 22-23	30th Annual Urology Seminar (Westin Crown Center, Kansas City)
Apr. 12-14	Improving Index of Cancer Chemotherapy (Westin Crown Center, Kansas City)
Apr. 17-18	Seventh Annual Primary Pediatrics for the Primary Physician
Apr. 27-28	Third Annual Clinical Conference on Arthritis
May 11-13	Seventh Annual Missouri Cardiovascular Conference (Tan-Tar-A, Osage Beach)
July 21-22	Swallowing Disorders (Marriott's Pavilion Hotel, St. Louis)

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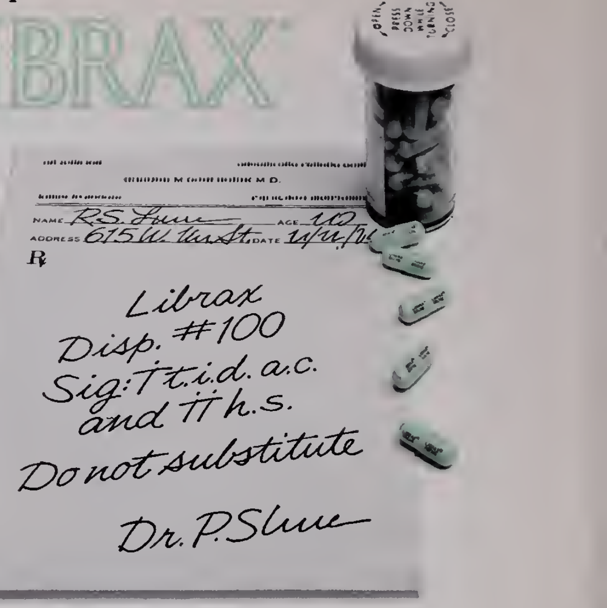

Each capsule contains 5 mg chlordiazepoxide HCl and 2.5 mg clidinium bromide

Please consult complete prescribing information, a summary of which follows:

* Indications: Based on a review of this drug by the National Academy of Sciences—National Research Council and/or other information, FDA has classified the indications as follows:
"Possibly" effective: as adjunctive therapy in the treatment of peptic ulcer and in the treatment of the irritable bowel syndrome (irritable colon, spastic colon, mucous colitis) and acute enterocolitis.
Final classification of the less-than-effective indications requires further investigation.

Contraindications: Glaucoma; prostatic hypertrophy, benign bladder neck obstruction; hypersensitivity to chlordiazepoxide HCl and/or clidinium Br.
Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants, and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Physical and psychological dependence rarely reported on recommended doses, but use caution in administering Librium® (chlordiazepoxide HCl/Roche) to known addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions) reported following discontinuation of the drug.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy. Advise patients to discuss therapy if they intend to or do become pregnant.

As with all anticholinergics, inhibition of lactation may occur.
Precautions: In elderly and debilitated, limit dosage to smallest effective amount to preclude ataxia, oversedation, confusion (no more than 2 capsules/day initially; increase gradually as needed and tolerated). Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider pharmacology of agents, particularly potentiating drugs such as MAO inhibitors, phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions reported in psychiatric patients. Employ usual precautions in treating anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship not established.
Adverse Reactions: No side effects or manifestations not seen with either compound alone reported with Librax. When chlordiazepoxide HCl is used alone, drowsiness, ataxia, confusion may occur, especially in elderly and debilitated; avoidable in most cases by proper dosage adjustment, but also occasionally observed at lower dosage ranges. Syncope reported in a few instances. Also encountered: isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent, generally controlled with dosage reduction; changes in EEG patterns may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice, hepatic dysfunction reported occasionally with chlordiazepoxide HCl, making periodic blood counts and liver function tests advisable during protracted therapy. Adverse effects reported with Librax typical of anticholinergic agents, *i.e.*, dryness of mouth, blurring of vision, urinary hesitancy, constipation. Constipation has occurred most often when Librax therapy is combined with other spasmolytics and/or low residue diets.

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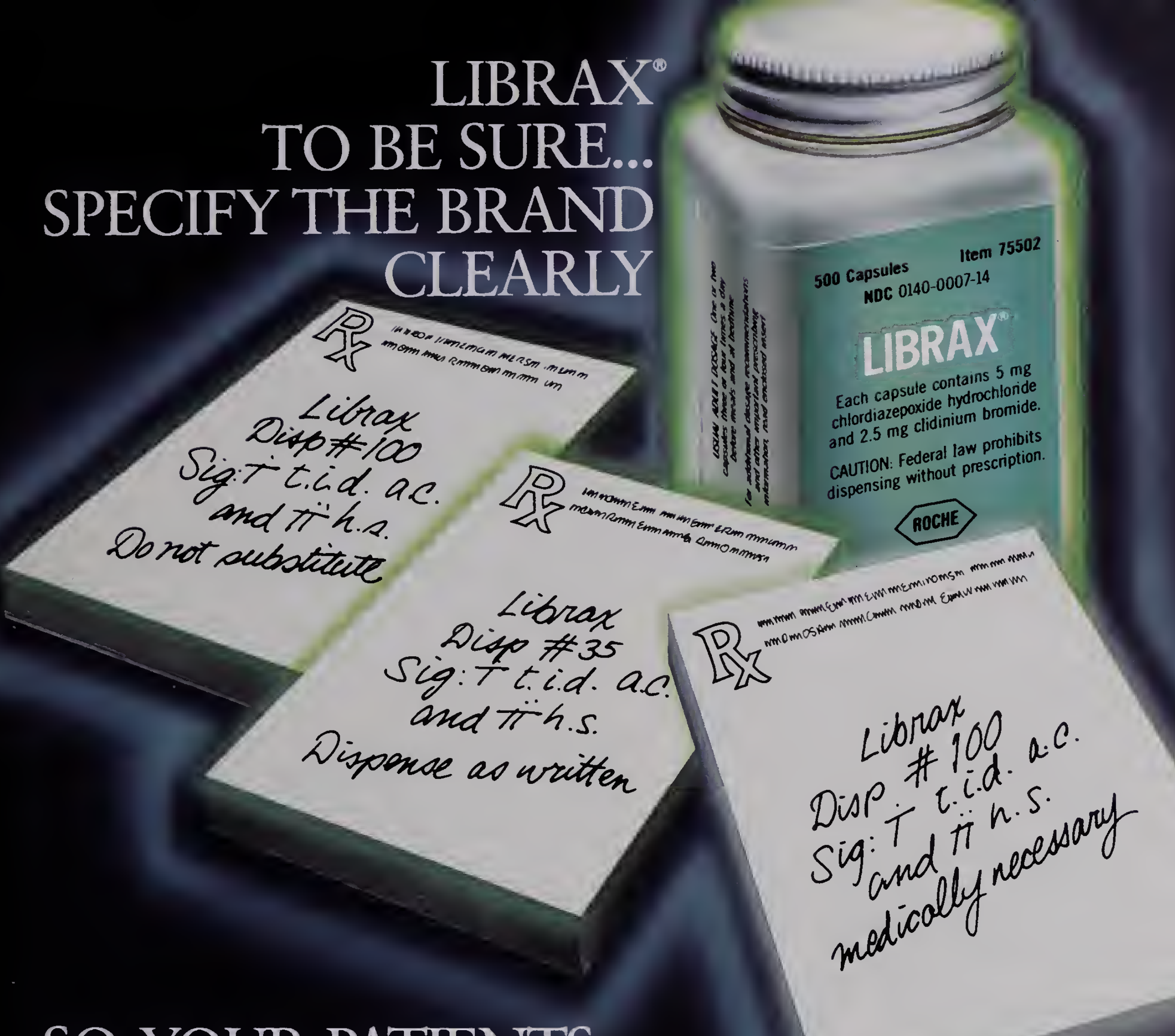
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and ⅱ h.s.
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SO YOUR PATIENTS GET ALL THE BENEFITS OF WHAT YOU PRESCRIBE FOR THEIR PEPTIC ULCER OR IRRITABLE BOWEL SYNDROME

Although generic pharmaceuticals may have active ingredients like those of the brand-name product, generics may use different manufacturing methods.

By specifying Librax when you write prescriptions for your patients with irritable bowel syndrome and duodenal ulcer,* you can be sure that each dose will provide the needed effect. Librax provides the antianxiety actions of Librium® (chlordiazepoxide HCl/Roche), which has a proven record of safety and efficacy. And working with the antianxiety effect of Librium are the antisecretory and antispasmodic actions of Quarzan® (clidinium bromide/Roche). Thus, when you prescribe Librax, your patients are also assured of specific medication against hypersecretion and hypermotility.

*Librax has been evaluated as possibly effective adjunctive therapy in the treatment of irritable bowel syndrome and duodenal ulcer. Please see summary of prescribing information on the preceding page.

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MSMA Members Receive Physician's Recognition Award

Sixty-four MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the period of October 1983.

The award is voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in Missouri Medicine as they are received from the AMA.

Archibald M. C. Ahern, St. Louis
Jerome M. Aronberg, Clayton
Kenneth Y. Baik, Marshall
Carl N. Baker, Manchester
Richard Baldwin, St. Louis
William W. Benedict, Creve Coeur
Sheldon E. Berenson, Kansas City
John L. Bircher, St. Louis
John D. Blair, St. Louis
Dale M. Blankenship, Cape Girardeau
Arnold G. Brody, St. Louis
John K. Caldwell, Kansas City
Emery R. Calovich, Kansas City
Arthur L. Casey, St. Louis
William A. Challener, St. Joseph
Harry B. Cohen, Mexico
Oral B. Crawford, Springfield
Harry C. Cundiff, Cape Girardeau
Harold F. Daum, Sedalia
Herbert A. Dempsey, Lee's Summit
Rengachary Dhanalakshmi, Lee's Summit
Robert C. Drews, St. Louis
James H. Esther, St. Louis
Charles P. Gauthier, Kansas City
Guillermo Geisse, St. Louis
Larry W. Halverson, Aurora
Wyeth Hamlin, Hannibal
David R. Hoelzer, St. Louis
William F. Hoffman, Bridgeton
Charles L. Jobe, Springfield
Forrest H. Kendall, Kansas City
Abdul R. Khan, St. Louis
Carlyn M. Kline, St. Joseph
Kenneth E. Knabb, Springfield
Edward J. Kunst, Manchester
Hieu H. Le, St. Louis
Larry E. Legler, Independence
Ernest Lorenc, Springfield
Maria M. Lyskowski, Cape Girardeau
Diosdado L. Maranan, Arnold
Hal E. Marshall, Kansas City
Andrew D. Martin, Sikeston
Michael A. Montgomery, Kansas City
Joseph A. Murney, Washington
Loi D. Nguyen, Ellisville
Maarten Nieuwenhuizen, Columbia
David L. Ohlms, St. Louis
Robert L. Palenske, Hornersville
Delmar L. Parsons, Cape Girardeau
Carlos A. Perez, St. Louis
Percival B. Salanga, St. Louis
Antonio B. Santillano, St. Louis
Robert F. Scheible, St. Louis
Hillard L. Scott, St. Louis
Elson F. Seitz, Independence
Elbert E. Smith, Kansas City
Allen F. Tess, Florissant
Stephen E. Vierling, St. Louis
Joe A. Wall, Houston
Edwin O. Wicks, Kansas City
Robert J. Williams, Rapid City, S.D.
Esther B. Winkelman, Kansas City
John H. Winter, Bridgeton
Robert A. Zink, St. Louis

NEWS From the Medical Schools

WASHINGTON UNIVERSITY

Anonymous donors have established an endowed professorship at the School of Medicine to honor two faculty members for their accomplishments in the field of medicine.

The new chair is the Irene E. and Michael M. Karl Professorship in Endocrinology and Medicine in the John Milliken Department of Medicine. The professorship honors the husband-and-wife team of *Irene E. Karl*, Ph.D., research professor of medicine for the Division of Metabolism and Endocrinology, and *Michael M. Karl*, M.D., professor of clinical medicine at Washington University.

The first professorship will be held by internationally known endocrinologist *William H. Daughaday*, M.D. Dr. Daughaday is director of the Division of Metabolism and Endocrinology; professor of medicine and director of the Diabetes Research and Training Center at the Medical School; and a staff physician at Barnes Hospital and Jewish Hospital in St. Louis. His research has brought about a better understanding of basic hormonal activity, especially that of growth hormone and plasma steroid levels.

Irene Karl has been a faculty member at Washington University since 1959, when she was named a research assistant for the Department of Preventive Medicine. She became a research instructor for the metabolism division in 1966, a research associate professor of medicine in 1974 and a research professor of medicine in 1981.

Her work as a chemist and biochemist has involved a broad range of studies, but she has become known as an authority on muscle metabolism. She received a doctorate in biochemistry, as well as master of science and bachelor of science degrees in chemistry, from the University of Wisconsin. She is a member of Phi Beta Kappa and Sigma Xi honorary societies, and a number of professional organizations, among them the American Chemical Society, American Diabetes Association, American Society of Clinical Research, American Association for the Advancement of Science and New York Academy of Sciences.

Michael Karl has practiced medicine in St. Louis for more than 35 years. He joined the faculty at Washington University School of Medicine in 1940 as an assistant in the Department of Medicine and was named a professor in 1972. He is a staff physician at Barnes Hospital and Jewish Hospital, both sponsoring institutions of the Washington University Medical Center, as well as at St. John's and St. Luke's hospitals. He has served also as acting director of the medical service at Jewish Hospital. Dr. Karl, an internist, for years has helped to plan health and social services for the elderly in St. Louis and throughout the nation. He was one of 40 members of a national advisory committee appointed by the President to the White House Conference on the Family, is governor of the American College of Physicians for the State of Missouri, and is a member of the Institute of Medicine of the National Academy of Sciences.

Dr. Karl holds the bachelor of science degree from the University of Wisconsin and the M.D. degree from the University of Louisville. He served an internship and residency in internal medicine at St. Louis City Hospital and a fellowship in cardiology at Washington University School of Medicine. He is a diplomate of the American Board of Internal Medicine, a fellow of the American College of Physicians, and a member of the St. Louis Metropolitan Medical Society and Alpha Omega Alpha, the honorary medical society.

Physicians for Social Responsibility, Inc. organized a symposium on "The Medical Consequences of Nuclear Weapons and Nuclear War" recently in St. Louis.

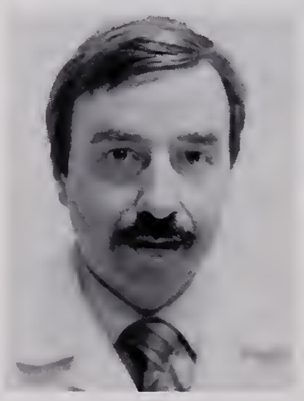
The conference was presented by Washington University School of Medicine, St. Louis University Medical Center and the St. Louis Metropolitan Medical Society.

The symposium was open to physicians, allied health professionals and the general public.

The goal of faculty members on the program was to give a better understanding of the prompt and delayed effects of nuclear war and the medical community's past experience with a thermonuclear explosion. They also discussed medical-surgical injuries and psychosocial trauma that would occur if a large metropolitan area such as

St. Louis were the site of a nuclear explosion and the ability of the surviving medical community to respond. Other sessions covered effects of the arms race on health care, the current state of world arsenals and arms control efforts and their effect on the probability of nuclear war.

ST. LOUIS UNIVERSITY



Dr. Stothert

Dr. Ayres

Joseph C. Stothert, Jr., M.D., director of Emergency/Trauma Division of St. Louis University Hospitals, received a three-year, $107,776 grant from the National Heart, Lung and Blood Institute. Dr. Stothert, who is working toward his doctorate degree in physiology, will study the effects of certain drugs and lung injury. This work will be helpful to his specialty as a trauma surgeon and in the care of the critically ill.

Stephen M. Ayres, M.D., chairman of the Department of Internal Medicine at the School of Medicine and medical director of St. Louis University Hospitals, received the Foundation for Critical Care Medicine's Phoenix Award recently for his "outstanding contributions to critical care medicine."

The Foundation for Critical Care Medicine is a national organization that provides funding for research and educational programs in the areas of critical care medicine. Earlier this year, Dr. Ayres chaired the National Institutes of Health Consensus Conference on Critical Care Medicine. He has served as chairman of the Task Group on Smoking for the National Heart, Lung and Blood Institute and was a member of the United States Surgeon General's subcommittee on the Cardiovascular Aspects of Smoking and Health.

Kenneth L. Brigham, M.D., professor of medicine, Vanderbilt University School of Medicine, gave the fourth annual Pfizer Lecture in clinical pharmacology at the Medical Center recently.

Dr. Brigham, who is director of the Pulmonary Division at Vanderbilt University School of Medicine, spoke on "Adult Respiratory Distress Syndrome: Pathogenesis and Therapy." *Andrew J. Lonigro*, M.D., associate professor of medicine and pharmacology, stated that Dr. Brigham "through his research has been a leader in helping define the adult respiratory distress syndrome."

George E. Thoma, M.D., vice-president for the Medical Center, has been elected to a three-year term as a member of the board of directors of the Association of Academic Health Centers (AAHC).

Dr. Thoma

Representing most of the academic health centers in the United States and Canada, the AAHC's focus is on the education of health professionals, the conduct of biomedical research, and the delivery of health services. The health centers include institutions of higher education and their owned or affiliated hospitals and schools of medicine, nursing, pharmacy and allied health.

As vice-president for the medical center, Dr. Thoma has administrative responsibility for St. Louis University Hospitals; the schools of medicine, nursing and allied health professions; graduate program in orthodontics; Center for Health Services Education and Research; Center for Health Care Ethics; University Health Center and the Institute for Molecular Virology.

He also is professor of internal medicine at the School of Medicine and medical director for the City of St. Louis Police Department. He is a member of the American Medical Association's Council on Medical Education and was editor of the *Journal of Nuclear Medicine* for 12 years.

UNIVERSITY OF MISSOURI-KANSAS CITY

Several hundred friends and family members attended a commemorative ceremony for *Mary Clark Dimond* on September 25 in the UMKC Performing Arts Center's White Recital Hall. Mrs. Dimond was the wife of *Dr. E. Grey Dimond*, provost emeritus, and was an active private citizen in civic health efforts in the community. She was founder and president of the Edgar Snow Memorial Fund. Mrs. Dimond died on June 9.

George T. Lundberg, M.D., editor in chief of the *Journal of the American Medical Association*, was the featured speaker at the School of Medicine's sixth annual convocation on October 23 for year-one medical students and their families.

James J. Mongan, M.D., executive director of Truman Medical Center and professor of medicine, is the new chairman-elect of the Public-General Hospital Section of the American Hospital Association. Dr. Mongan has been an active spokesman for public hospitals in recent years. His new position will give him a national forum for articulating the needs of public hospitals in the United States.

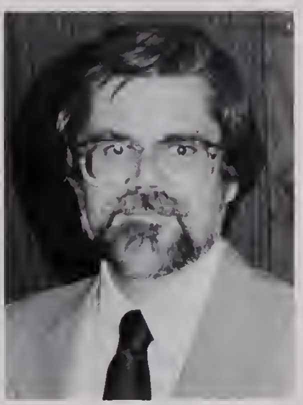
Susan Ann Blanchard is this year's recipient of the Ruby T. McVean Scholarship Award. The award is for a UMKC medical student "who has demonstrated academic, clinical and personal performances at high levels, and a demonstrated interest in family medicine as well as geriatrics." Ms. Blanchard is a sixth-year student on Green Unit 6. She is a Kansas City resident and is originally from Houma, La.

Rick E. McGath, MS-VI, on Red Unit 6, and *Craig E. Brown*, MS-VI, on Gold Unit 3, are recipients of the Dr. Eugene L. Bales Scholarship Award. Dr. Bales was a Fellow of the Academy of Family Practice. His widow, Mrs. *Dorothy H. Bales* of Carrollton contributed the scholarship to "students who propose to practice family medicine." Mr. Brown's hometown is Bonne Terre; Mr. McGath is from Poplar Bluff.

Thomas A. Nicholas, M.D., professor of community medicine and family practice and the chairman of the Department of Community Medicine and Family Practice at Truman Medical Center-East, is the new president of the Association of Departments of Family Medicine, a section of the American Association of Medical Colleges. Although the association's title does not reflect the fact, the group is composed of chairmen of departments of family practice.

UNIVERSITY OF MISSOURI-COLUMBIA

John H. Bauer, M.D., associate professor of medicine, has received the Outstanding Continuing Medical Educator Award for 1982-1983.


Dr. Bauer

The award is presented each year to one individual in recognition of teaching skill, ability to relate well to private practitioners and, most importantly, positive response from those who attend UMC's continuing medical education programs.

Each year, many of the faculty members participate without compensation in continuing medical education programs held throughout Missouri. Last year, more than 5,000 Missouri health care providers participated in programs that provide up-to-date information on a wide variety of health care topics.

Dr. Bauer has been a member of the School of Medicine faculty since 1975 as well as staff physician and director of the Hypertension Section and Renal Diagnostic Area at Columbia's Harry S. Truman Memorial Veterans Hospital. He has taught in a number of continuing medical education programs during the past year. Each time, he has received high marks from participants, who are asked to rate each presenter.

Dr. Bauer received the award at the annual recognition dinner, held on September 28 in the Alumni Center. The dinner is sponsored by University Physicians, the UMC Hospital and Clinics, the UMC School of Medicine and the Extension Division.

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126th MSMA ANNUAL CONVENTION

March 29-April 1, 1984
Marriott Pavilion Hotel, St. Louis

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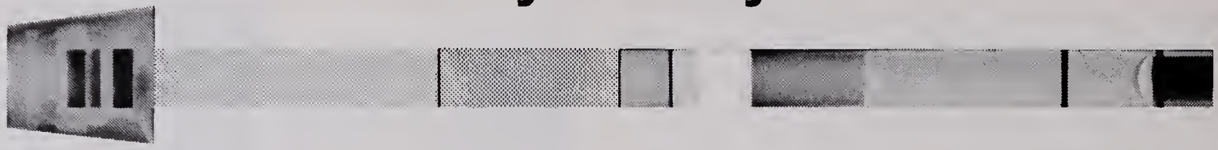

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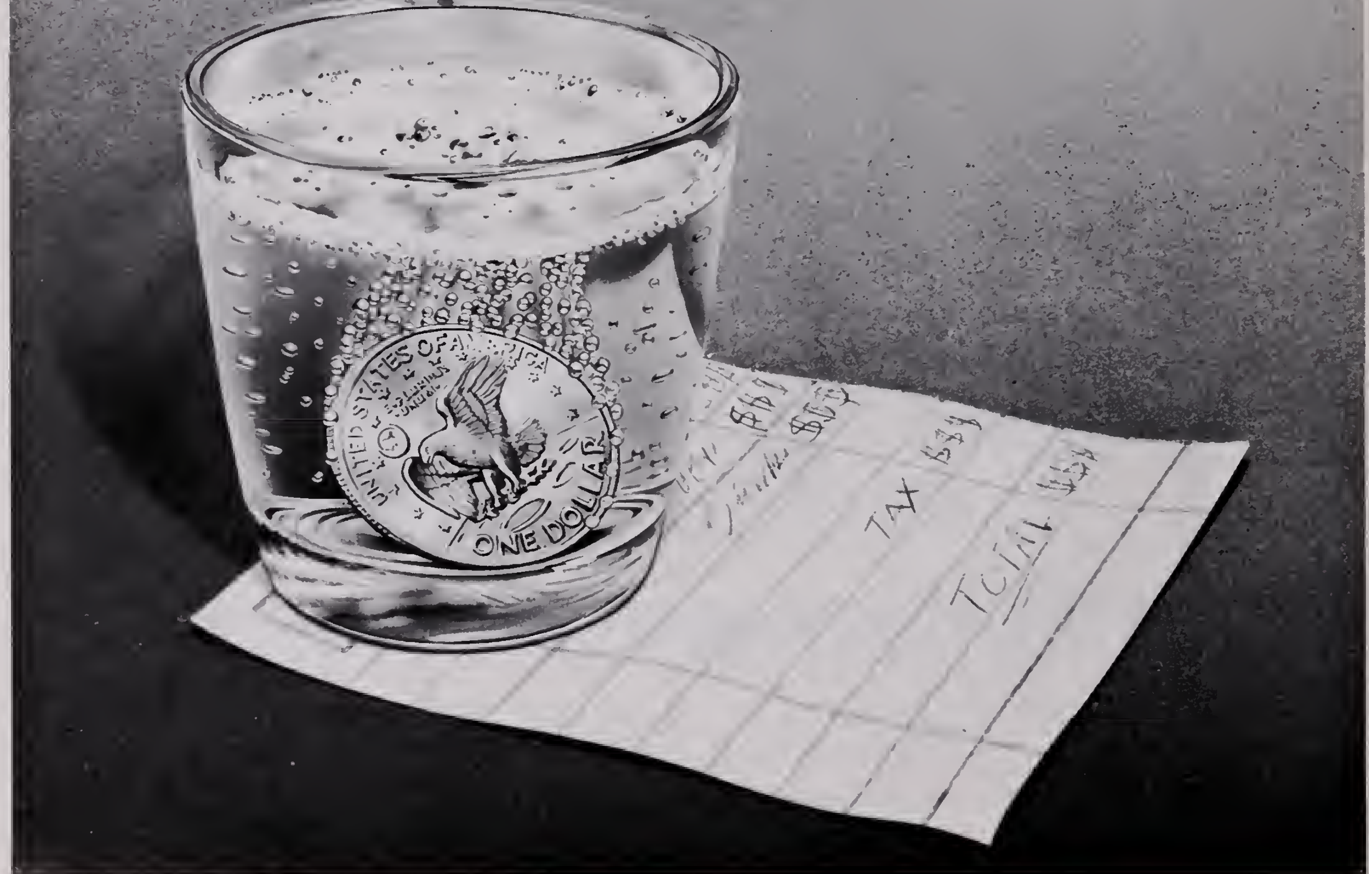

Introducing Our New MSMA Members

George V. Andreoff, M.D., 6605 Clayton Ave., Suite 204, St. Louis 63139, has become a member of St. Louis Metropolitan Medical Society. Dr. Andreoff is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at the University of Guadalajara in 1979. He specializes in internal medicine.

Michael E. Ashley, M.D., 1211 S. Glenstone, Springfield 65804, has become a member of Greene County Medical Society. Dr. Ashley is a native of St. Louis, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Kansas City in 1977. He specializes in general and cardiovascular surgery.

Peter V. Bettonville, M.D., 6605 Clayton Ave., Suite 306, St. Louis 63139, has become a member of St. Louis Metropolitan Medical Society. Dr. Bettonville is a native of St. Louis, received his preliminary education at Georgetown University and his M.D. degree at St. Louis University in 1980. He specializes in internal medicine.

Richard D. Bucholz, M.D., 1325 S. Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Bucholz is a native of Omaha, Neb., received his preliminary education at Yale College and his M.D. degree at Yale College in 1977. He specializes in neurosurgery.

Nancy J. Bunge, M.D., Old Farm Professional Center, Suite B-East, Mexico 65265, has become a member of Audrain County Medical Society. Dr. Bunge is a native of Kansas City, received her preliminary education at the University of Missouri-Columbia and her M.D. degree at the University of Missouri-Columbia in 1980. She specializes in pediatrics.

James A. Critchlow, D.O., 626 Summit, Mexico 65265, has become a member of Audrain County Medical Society. Dr. Critchlow is a native of St. Louis, received his preliminary education at Southeast Missouri State University and his D.O. degree at Kansas City College of Osteopathic Medicine in 1980. He specializes in family practice.

Michael H. Davis, M.D., Ferrell Duncan Clinic, 1550 E. Sunshine, Springfield 65804, has become a member of Greene County Medical Society. Dr. Davis is a native of Springfield, received his baccalaureate and M.D. degrees at the University of Missouri-Kansas City in 1978. He specializes in internal medicine and cardiology.

Leroy J. Dierker, M.D., 100 N. Euclid, Suite 710, St. Louis 63108, has become a member of St. Louis Metropolitan Medical Society. Dr. Dierker is a native of Lawrence, Neb., received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1943. He specializes in general practice.

Robert N. Egbert, M.D., 1235 E. Cherokee, Springfield 65804, has become a member of Greene County Medical Society. Dr. Egbert is a native of Charleston, W. Va., received his preliminary education at Johns Hopkins University and his M.D. degree at the University of Maryland in 1970. He specializes in nuclear medicine, internal medicine and emergency medicine.

Roman S. Enriquez, Jr., M.D., 7924 Paseo, Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Enriquez is a native of the Philippines, received his preliminary education at the University of Santo Tomas and his M.D. degree at the University of Santo Tomas in 1972. He specializes in internal medicine.

John M. Frederickson, M.D., Dept. of Otolaryngology, 517 S. Euclid, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Frederickson is a native of Winnepeg, Canada, received his preliminary education at the University of British Columbia and his M.D. degree at the University of British Columbia in 1957. He specializes in otolaryngology.

John T. Galdamez, D.O., Lake of the Ozarks General Hospital, Osage Beach 65065, has become a member of Lake of the Ozarks Medical Society. Dr. Galdamez is a native of New York, received his preliminary education at Barrington College and his D.O. degree at Kansas City College of Osteopathic Medicine in 1975. He specializes in internal medicine.

Edward S. Gallagher, M.D., 1111 Woods Mill Rd., Ballwin 63011, has become a member of St. Louis Metropolitan Medical Society. Dr. Gallagher is a native of Oakland, Calif., received his preliminary education at the University of Santa Clara and his M.D. degree at Marquette University in 1964. He specializes in pediatrics.

Sanjay R. Ganpule, M.D., 2933 Baltimore, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Ganpule is a native of India, received his preliminary education at the University of Manchester and his M.D. degree at the University of Manchester in 1979. He specializes in internal medicine.

B. William Ginsberg, M.D., Suite 508, 6724 Troost, Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Ginsberg is a native of Kansas City, received his preliminary education at Princeton University and his M.D. degree at Columbia University in 1976. He specializes in internal medicine and gastroenterology.

Thomas K. Hamilton, D.O., 2700 McClelland Blvd., Bldg. B, Suite 213, Joplin 64801, has become a member of Jasper County Medical Society. Dr. Hamilton is a native of Nevada, received his preliminary education at Missouri Southern State College and his D.O. degree at Kansas City College of Osteopathic Medicine in 1976. He specializes in general practice.

William J. Klontz, M.D., 2808 Pitcher, Joplin 64802, has become a member of Jasper County Medical Society. Dr. Klontz is a native of Bronaugh, received his preliminary education at Mid-America Nazarene College and his M.D. degree at the University of Kansas in 1976. He specializes in psychiatry.

John F. Kveton, M.D., 1325 S. Grand, St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Kveton is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1978. He specializes in otolaryngology and neuro-otology.

James R. LaSalle, D.O., 1000 N. Jesse James Rd., Excelsior Springs 64024, has become a member of Clay-Platte Medical Society. Dr. LaSalle is a native of Kansas City, received his preliminary education at the University of Columbia and his D.O. degree at the Kansas City College of Osteopathic Medicine in 1974. He specializes in family practice.

Ronald D. Leidenfrost, M.D., 7326 Princeton, St. Louis 63130, has become a member of St. Louis Metropolitan Medical Society. Dr. Leidenfrost is a native of Paterson, N.J., received his preliminary education at the University of Rochester and his M.D. degree at State University of New York Upstate in 1973. He specializes in internal medicine and cardiovascular surgery.

Kenneth C. Li, M.D., 686 Lester, Poplar Bluff 63901, has become a member of Butler-Wayne-Ripley-Carter County Medical Society. Dr. Li is a native of Taiwan, received his preliminary education at Duke University and his M.D. degree at the University of Missouri-Columbia in 1983. He specializes in internal medicine.

John E. Manire, M.D., 2727 McClelland Blvd., Joplin 64801, has become a member of Jasper County Medical Society. Dr. Manire is a native of Coleraine, Minn. received his preliminary education at Seattle Pacific College and his M.D. degree at the University of Washington in 1954. He specializes in emergency medicine.

Kenneth R. Mann, M.D., Suite 298, 17221 E. 23rd, Independence 64057, has become a member of Jackson County Medical Society. Dr. Mann is a native of Kansas City, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1979. He specializes in internal medicine.

Richard W. McDonnell, M.D., University of Missouri-Kansas City School of Medicine, 2411 Holmes, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. McDonnell is a native of Kansas City, Kan., received his preliminary education at Johns Hopkins University and his M.D. degree at the University of Chicago Pritzker School of Medicine in 1976. He specializes in internal medicine and infectious diseases.

Michael Nagle, M.D., 2601 Cunningham, Joplin 64801, has become a member of Jasper County Medical Society. Dr. Nagle is a native of Oklahoma City, Okla., received his preliminary education at the University of Oklahoma and his M.D.

degree at the University of Oklahoma in 1978. He specializes in general and cardiovascular surgery.

Colleen I. Noble, M.D., L. E. Cox Medical Center, 1423 N. Jefferson, Springfield 65802, has become a member of Greene County Medical Society. Dr. Noble is a native of Long Beach, Calif., received her preliminary education at Michigan State University and her M.D. degree at Michigan State University in 1974. She specializes in pediatrics.

James S. Noble, M.D., L. E. Cox Medical Center, 1423 N. Jefferson, Springfield 65802, has become a member of Greene County Medical Society. Dr. Noble is a native of Salt Lake City, Utah, received his preliminary education at the University of Oregon and his M.D. degree at the University of Oregon in 1962. He specializes in pediatrics and neonatal-perinatal medicine.

Suwan **Phanijphand,** M.D., 2011 N. Westwood, Poplar Bluff 63901, has become a member of Butler-Ripley-Wayne-Carter County Medical Society. Dr. Phanijphand is a native of Thailand, received his preliminary education at Mahidol University and his M.D. degree at Chiengmai University in 1968. He specializes in otolaryngology.

Randall Phillips, M.D., Suite 121, E. 777 South New Ballas Rd., Creve Coeur 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Phillips is a native of Philadelphia, Pa., received his preliminary education at Widener University and his M.D. degree at Hahnemann Medical College in 1978. He specializes in diagnostic radiology and nuclear medicine.

James C. Quigley, M.D., 3535 S. National, Springfield 65807, has become a member of Greene County Medical Society. Dr. Quigley is a native of E. St. Louis, Ill., received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1977. He specializes in pathology.

Joseph D. Rogers, M.D., 1900 S. National Ave., Springfield 65804, has become a member of Greene County Medical Society. Dr. Rogers is a native of Gastonia, N.C., received his preliminary education at the University of South Carolina and his M.D. degree at the University of South Carolina in 1970. He specializes in therapeutic radiology.

Bruce A. Ruoff, M.D., 3915 Jamieson Ave., St. Louis 63109, has become a member of St. Louis Metropolitan Medical Society. Dr. Ruoff is a native of St. Joseph, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at St. Louis University in 1979. He specializes in general surgery.

Cynthia R. Sainsbury, M.D., 6628 Walrond, Kansas City 64132, has become a member of Jackson County Medical Society. Dr. Sainsbury is a native of Pittsburgh, Pa., received her preliminary education at Eastern Nazarene College and her M.D. degree at the Medical College of Pennsylvania in 1983. She specializes in emergency medicine.

William L. Schlegel, D.O., 609 Buckingham Pl., Blue Springs 64015, has become a member of Jackson County Medical Society. Dr. Schlegel is a native of New Brunswick, N.J., received his preliminary education at Central Missouri State University and his D.O. degree at the Kansas City College of Osteopathic Medicine in 1982. He specializes in internal medicine.

Melvin J. Schultz, M.D., 804 St. Francis St., Kennett 63857, has become a member of Dunklin County Medical Society. Dr. Schultz was born at Langley A.F.B., Va., received his preliminary education at Harvard College and his M.D. degree at Tulane University of Louisiana in 1972. He specializes in emergency medicine and family practice.

Robert A. Schwab, M.D., 4617 Jefferson, Apt. 1045, Kansas City 64112, has become a member of Jackson County Medical Society. Dr. Schwab is a native of Alexandria, Va., received his preliminary education at the University of Virginia and his M.D. degree at the University of Virginia in 1983. He specializes in emergency medicine.

Martin W. Schwarz, D.O., 2200 West Port Plaza Dr., Ste. 212, St. Louis 63146, has become a member of St. Louis Metropolitan Medical Society. Dr. Schwarz is a native of St. Louis, received his preliminary education at St. Louis University and his D.O. degree at Kirksville College of Osteopathic Medicine in 1973. He specializes in internal medicine and cardiology.

Thomas E. Scully, M.D., Suite 228, 911 S. Brentwood, St. Louis 63105, has become a member of St. Louis Metropolitan Medical Society. Dr. Scully is a native of Thomson, Ga., received his preliminary education at Georgetown University and his M.D. degree at Indiana University in 1978. He specializes in urology.

Janice L. Seabaugh, M.D., 203 West Blvd., Mexico 65265, has become a member of Audrain County Medical Society. Dr. Seabaugh is a native of Cape Girardeau, received her preliminary education at the University of Missouri-Columbia and her M.D. degree at the University of Missouri-Columbia in 1980. She specializes in head and neck surgery.

Joseph C. Stothert, M.D., 1325 S. Grand, St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Stothert is a native of Springfield, Mass., received his preliminary education at MacMurray College and his M.D. degree at St. Louis University in 1974. He specializes in general surgery.

Truett Swaim, M.D., Suite 102, 1600 W. 40 Highway, Blue Springs 64015, has become a member of Jackson County Medical Society. Dr. Swaim is a native of Chillicothe, received his baccalaureate and M.D. degrees from the University of Missouri-Kansas City in 1977. He specializes in orthopedic surgery.

David A. Terschluse, M.D., 1325 S. Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Terschluse is a native of St. Louis, received his preliminary education at the University of Notre Dame and his M.D. degree at St. Louis University in 1979. He specializes in general surgery.

Marla J. Tobin, M.D., 312 W. 19th, Higginsville 64037, has become a member of Lafayette-Ray County Medical Society. Dr. Tobin is a native of Independence, received her preliminary education at the University of Missouri-Columbia and her M.D. degree at the University of Missouri-Columbia in 1980. She specializes in family practice.

Gregg K. Triggs, M.D., 6125 N. Jefferson, Kansas City 64118, has become a member of Jackson County Medical Society. Dr. Triggs is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at St. Louis University in 1983. He specializes in internal medicine.

Nancy S. Weigel, M.D., 4236 Blaine 2 FL, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Weigel is a native of Milwaukee, Wis., received her preliminary education at the University of Notre Dame and her M.D. degree at St. Louis University in 1982. She specializes in family practice.

James A. Wilkens, M.D., 220 West R. D. Mize Rd., Blue Springs 64015, has become a member of Jackson County Medical Society. Dr. Wilkens is a native of Dickinson, N. D., received his preliminary education at the University of North Dakota and his M.D. degree at the University of North Dakota in 1978. He specializes in internal medicine.

Patricia A. Young, M.D., 2900 N. E. 60th, Gladstone 64119, has become a member of Clay-Platte County Medical Society. Dr. Young was born at Misawa Air Force Base in Japan, received her preliminary education at the University of Kansas and her M.D. degree at the University of Kansas in 1980. She specializes in anesthesiology.

New Student Members

University of Missouri-Kansas City

Christopher L. Ahlering
Charlotte M. Balcer
Kevin J. Blinder
Joseph F. Boveri
John W. Buckner III
John W. Chesney
Todd Gwin
Gina Marie Harmeier
Scott T. Henderson
Patricia Kandalaft
Howard L. Kremer
Leslie A. Launch
Madeline Lemee
Thomas A. Lord
Hooman Nourbakhsh
Patrick M. O'Toole
Thomas A. Rebori
Kent B. Roberson
Thomas J. Shireman
Charles A. Thomas
L. Arthur Weber
Karen Linda Williams

Washington University

Michael Apkon
Jeffrey Barteau
William L. Becker
Mark Behlke
Carl L. Berg
Edward O. Buschmiller
Paul E. Buse
Peter Bushunow
David J. Callahan
Elisabeth Demonchaux
John E. Frattini
Michael Gornet
Bruce A. Herman
Thomas C. King
Mark C. Kory
Timothy B. Powers
Richard Rosenthal
Steven M. Scates
Michael A. Shapiro
Richard K. Vehe

New Student Members *(Continued)*

St. Louis University

Michael Banton
David A. Bradshaw
Paul S. Brown, Jr.
James P. Buchanan
Joseph R. DeAntonio
Frederick H. Dore
Gifford V. Eckhout
Bob Farber
Hugh E. Hetherington
Dennis Lawlor
Jude P. Malican
Nancy L. Mayer
Stephen M. Reinitz
Ethelyn A. Rusnak
Michael A. Smith
David Staunton
Noel B. Stibor
John Symington
Tom Tremback
Patricia Veiga
Scott Rulon Werner

University of Missouri-Columbia

David M. Amberger
Bradley K. Baker
Joseph W. Basler
George W. Carr
Brian S. Conley
Deborah A. Dayhoff
Carla J. Garrison
David Joseph Goo
William Humphreys
Diane L. Kallgren
Robert M. Klein
Kevin Kueser
John M. Legan
Nicolas Llorens
James M. Lynch
Myron L. Maes
Mark J. Malley
Ann Marty
Suzanne M. Menz
Keith J. Moll
Jill S. Murphey
Steve Nester
Nanette S. Nuessle
Lisa Ovens
Carol Ann Robinson
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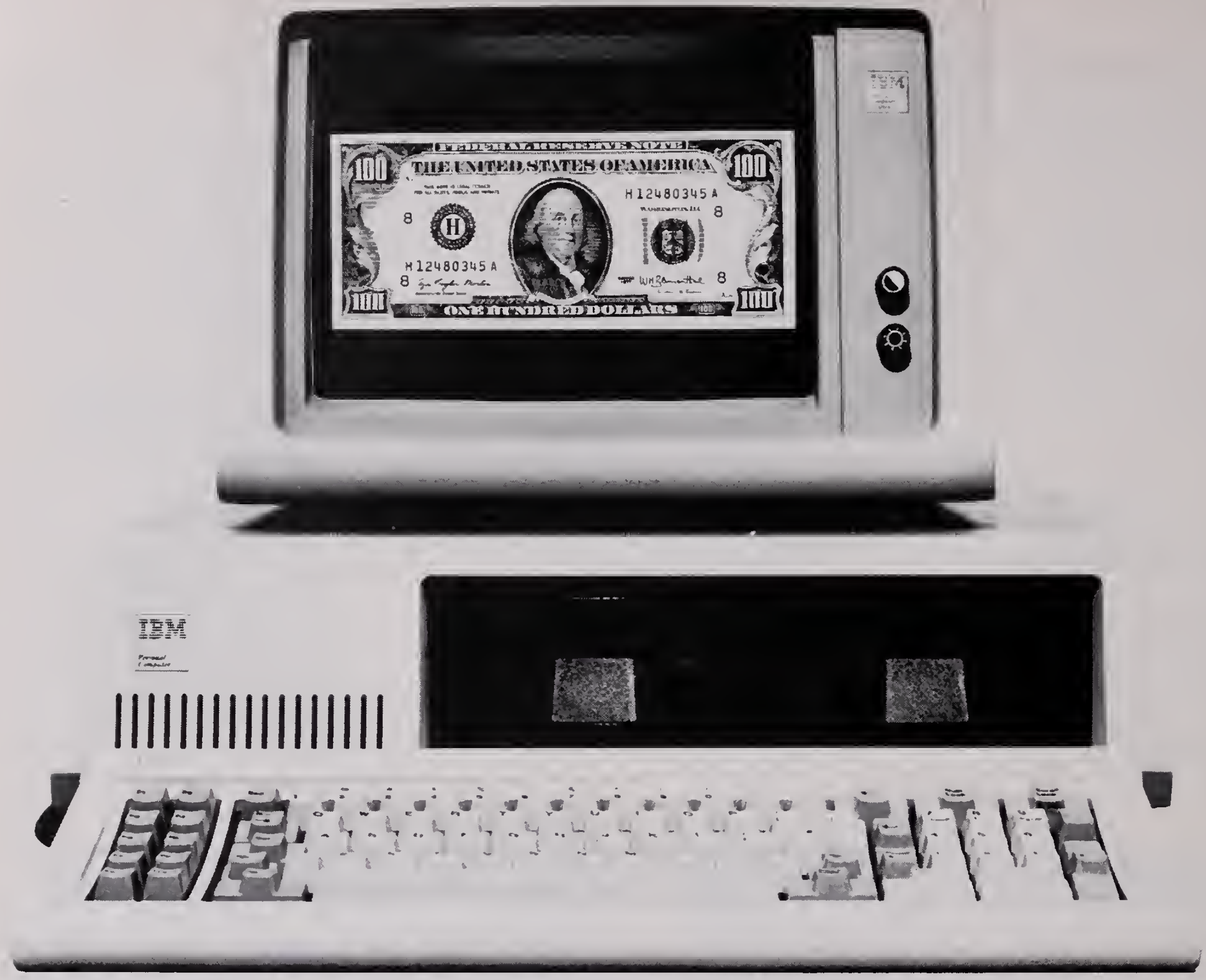

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in Brief

A summary of AMA, medical & health news

American Medical Association/535 North Dearborn Street/Chicago, Illinois 60610/Phone (312) 527-1500/TWX 910-221-0300

A FREEZE on Medicare payments and mandatory assignment, as proposed by the House Ways and Means Health Subcommittee, would reduce the number of physicians who participate in Medicare, said AMA President Frank J. Jirka Jr., M.D. The result would be a loss of choices for the elderly, he said. The subcommittee proposal would roll back Medicare's prevailing charge limits on Jan. 1, 1984, to those in effect before July 1, 1983, and hold them at that level until July 1, 1984. It would also require that the physician accept assignment for all services to Medicare inpatients. "While we oppose an arbitrary freeze, a six-month freeze is better than a one-year freeze and is consistent with a six-month Social Security benefit delay," Dr. Jirka said. "But dictating mandatory assignment is a break with the original Medicare promise of 1965."

TWENTY MORE Patient Medication Instruction sheets are now available from the AMA, bringing the total to 60. PMI sheets, bound in pads of 100, are designed to augment oral communications on drug therapy between patients and physicians. For the first time, the AMA is issuing PMI sheets for over-the-counter pharmaceutical products other than insulin: antihistamines used for motion sickness, allergies and insomnia; bronchodilator aerosols; aspirin and acetaminophen. The PMI program is sponsored by the AMA Education and Research Foundation. The minimum order for PMIs is ten pads for $5, prepaid to AMA Order Department, P. O. Box 8052, Rolling Meadows, IL 60008.

"**TALK TO YOUR** children about talking to strangers" is the theme of a 30-second public service announcement distributed by the AMA to 500 television stations. At least 20% of the stations had aired the spot within the first two weeks.

CHILD ABUSE and drunk driving will be the foci of the AMA Auxiliary's nationwide program to promote good health. The "Shape Up for Life" campaign will promote public awareness and prevention of these problems with two new brochures: *Child Abuse Prevention* and *Drinking and Traffic Safety*.

A PROPOSAL TO MERGE the three medical departments of the armed forces into a single Defense Department health agency could result in operational problems and damage to service morale, the AMA said in a letter to Secretary Caspar Weinberger. The AMA also expressed concern that creation of a defense health agency could reduce graduate training positions.

TWENTY PHYSICIAN-OWNED professional liability companies increased rates during the three billing periods since 1980, according to a poll conducted by the American Medical Assurance Company. Half of the 20 companies increased rates in each of the three years, and six raised premiums in two out of the three years. Increases ranged from 10% to 99% on a compounded basis. The average increase over the three years was 47%.

THE MAJOR SOURCE of AMA revenue in fiscal year 1984 will be membership dues, which are expected to total $51,060,000, up from $48,500,000 projected for this year. Dues-paying membership is expected to be 216,700, including 158,300 regular members, 28,400 housestaff members, and 30,000 medical student members. The next largest source of revenue is projected to be $25,920,000 from advertising, up from a projected 1983 total of $24,400,000.

AN AMA BUDGET for the 1984 fiscal year with projected revenues of $111,500,000 and operating expenses of $110,100,000 was approved by the Board of Trustees. It calls for the commitment of some $5.8 million to increase the Association's emphasis on various programs. Increases will include $1,050,000 for publications (which will be offset by increased advertising revenue), $800,000 for personal and public health policy activities; $870,000 for communications with membership and the Federation; $260,000 for expansion of survey and physician masterfile activities; $260,000 for the Health Policy Agenda for the American People project; $250,000 for members' retirement plan activities; and $1,440,000 for other activities.

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- Studied extensively in the sleep laboratory—the most valid environment for measuring hypnotic efficacy.[1-12]
- Studied in over 200 clinical trials involving over 10,000 patients.[13]
- During long-term therapy, which is seldom required, periodic blood, kidney and liver function tests should be performed.
- Contraindicated in patients who are pregnant or hypersensitive to flurazepam.
- Caution patients about drinking alcohol, driving or operating hazardous machinery during therapy.

References: 1. Kales A *et al: J Clin Pharmacol 17*:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **3.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **4.** Kales A *et al: JAMA 241*:1692-1695, Apr 20, 1979. **5.** Kales A, Scharf MB, Kales JD: *Science 201*:1039-1041, Sep 15, 1978. **6.** Kales A *et al: Clin Pharmacol Ther 19*:576-583, May 1976. **7.** Kales A, Kales JD: *Pharmacol Physicians 4*:1-6, Sep 1970. **8.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **9.** Dement WC *et al: Behav Med 5*:25-31, Oct 1978. **10.** Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **11.** Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. **12.** Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. **13.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

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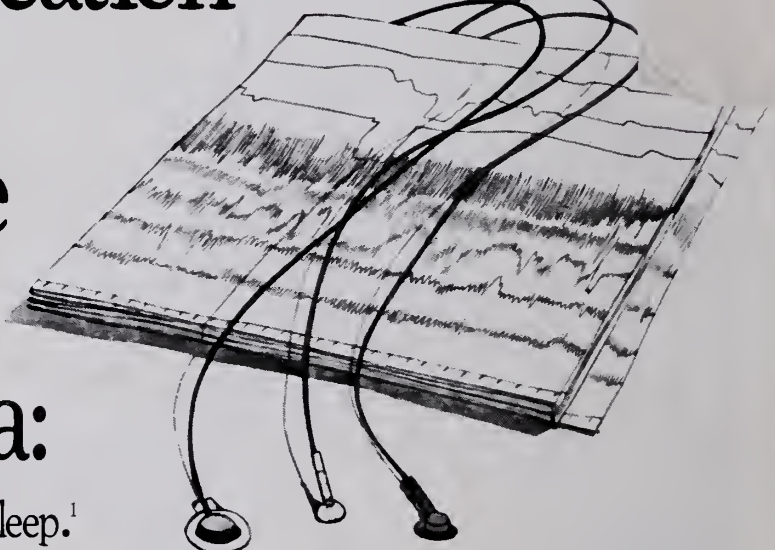

- Rapid onset of sleep.[1]
- More total sleep time on the first 3 nights of therapy.[1]
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- Continued efficacy for at least 28 nights.[2]
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